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Access DB# 942651**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: Lauren Weiner Examiner #: 71724 Date: 5-19-03
 Art Unit: 1745 Phone Number 30 844396 Serial Number: 09/76/122
 Mail Box and Bldg/Room Location: JE10 Results Format Preferred (circle): PAPER DISK E-MAIL

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): Lee Finn Page

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please do a structural search for a Polyl
 polymer electrolyte comprising a polymer compound
 having a branched carbamate structure (Formula 7)
 as partial structure & electrolyte salt. See dependent
 Claim 3 for additional polymerizable functional group.

Please send back copy of claims & x's

Thanks,
 Lauren

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Date Searcher Picked Up: _____

Date Completed: 5/19/03Searcher Prep & Review Time: 20

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PTO-1590 (8-01)

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Bib Data Sheet

CONFIRMATION NO. 7232

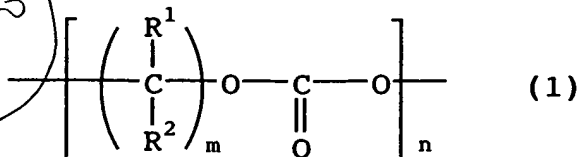
SERIAL NUMBER 09/901,122	FILING DATE 07/10/2001 RULE	CLASS 429	GROUP ART UNIT 1745	ATTORNEY DOCKET NO. Q61612	
APPLICANTS Masataka Takeuchi, Chiba, JAPAN; Shuichi Naijo, Chiba, JAPAN; Ayako Nishioka, Chiba, JAPAN;					
** CONTINUING DATA ***** THIS APPLN CLAIMS BENEFIT OF 60/245,717 11/06/2000					
** FOREIGN APPLICATIONS ***** JAPAN P2000-207828 07/10/2000					
IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 08/27/2001					
Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no 35 USC 119 (a-d) conditions <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after met Allowance Verified and Acknowledged _____ Examiner's Signature Initials		STATE OR COUNTRY JAPAN	SHEETS DRAWING 1	TOTAL CLAIMS 22	INDEPENDENT CLAIMS 4
ADDRESS SUGHRUE, MION, ZINN, MACKPEAK & SEAS, PLLC 2100 Pennsylvania Avenue, N.W. Washington ,DC 20037-3213					
TITLE Polymerizable composition and use thereof					
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42/317
282/62.2
WHAT IS CLAIMED IS:

Class
Chase 1-18

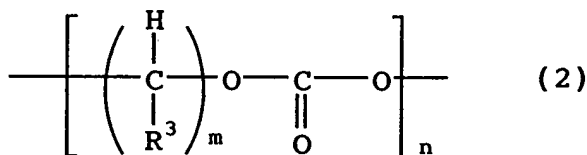
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1. A solid polymer electrolyte comprising a polymer compound having a branched carbonate structure represented by formula (1) as a partial structure and at least one electrolyte salt:



5 wherein each R^1 and R^2 independently represents a hydrogen atom, a linear, branched or cyclic alkyl group having from 1 to 10 carbon atoms, a linear, branched or cyclic alkoxy group having from 1 to 10 carbon atoms or a linear, branched or cyclic alkoxyalkyl group having from 1 to 10 carbon atoms, m represents an integer of 3 to 10, n represents an integer of 1 to 500, and each R^1 and R^2 and each value of m and n can be the same or different, provided that R^1 or R^2 present in plurality within the same molecule are not a hydrogen atom at the same time.

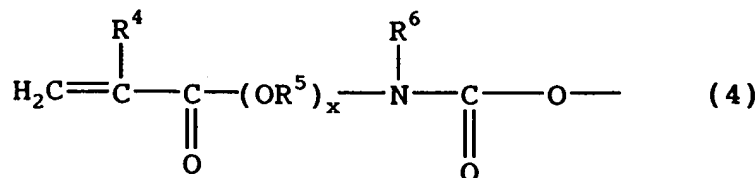
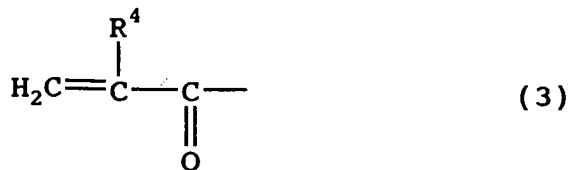
2. A solid polymer electrolyte comprising a polymer compound having a branched carbonate structure represented by formula (2) as a partial structure and at least one electrolyte salt:



5 wherein R^3 represents a hydrogen atom, a linear, branched or cyclic alkyl group having from 1 to 10 carbon atoms, a linear, branched or cyclic alkoxy group having from 1 to 10 carbon atoms or a linear, branched or cyclic alkoxyalkyl group having from 1 to 10 carbon atoms, m represents an integer of 3 to 10, n represents an integer of 1 to 500, and each R^3 and each value of m and n can be the same or different, provided that R^3 present in plurality within the same molecule are not a hydrogen atom at the same time.

3. A solid polymer electrolyte which is a polymer of a polymerizable compound having a branched carbonate structure described in claim 1 or 2 and a polymerizable functional group represented by the following formula (3) and/or

(4):



wherein R⁴ represents a hydrogen atom or a linear, branched or cyclic alkyl group having from 1 to 10 carbon atoms, R⁶ represents a hydrogen atom, a linear, branched or cyclic alkyl group having from 1 to 10 carbon atoms, a linear, branched or cyclic alkoxy group having from 1 to 10 carbon atoms or a linear, branched or cyclic alkoxyalkyl group having from 1 to 10 carbon atoms, R⁵ represents a divalent group which can contain a heteroatom and can have a linear, branched or cyclic structure, and x represents 0 or 1, provided that R⁴, R⁵, R⁶ or x present in plurality within the same molecule can be the same or different.

4. The solid polymer electrolyte as claimed in claim 3, wherein the polymerizable compound has a mass average molecular weight of about 100 to about 3,000.

5. The solid polymer electrolyte as claimed in claim 3, wherein the polymerizable compound is almost liquid at room temperature and a viscosity thereof is about 5,000 mPa·S (25°C) or less.

6. The solid polymer electrolyte as claimed in claim 1 or 2, which further comprises at least one organic solvent.

7. A polymerizable composition for a solid polymer electrolyte, comprising at least one polymerizable compound claimed in claim 3, and at least one electrolyte salt.

8. The polymerizable composition for a solid polymer electrolyte as claimed in claim 7, further comprising at least one organic solvent.

9. The polymerizable composition for a solid polymer electrolyte as claimed in claim 8, wherein a viscosity is about 6.0 mPa·S (25°C) or less. *3* *solid polymer electrolyte*

✓ 10. A solid polymer electrolyte obtained by polymerizing the polymerizable composition claimed in claim 7. *112* *62*

✓ 11. A solid polymer electrolyte obtained by polymerizing the polymerizable composition claimed in claim 8. *112*

✓ 12. A solid polymer electrolyte obtained by polymerizing the polymerizable composition claimed in claim 9. *112*

✓ 13. The solid polymer electrolyte as claimed in claim 1 or 2, wherein the electrolyte salt is at least one selected from the group consisting of an alkali metal salt, a quaternary ammonium salt and a quaternary phosphonium salt.

✓ 14. The polymerizable composition for a solid polymer electrolyte as claimed in claim 7, wherein the electrolyte salt is at least one selected from the group consisting of an alkali metal salt, a quaternary ammonium salt and a quaternary phosphonium salt.

✓ 15. The solid polymer electrolyte as claimed in claim 6, wherein the organic solvent is at least one selected from the group consisting of carbonates, aliphatic esters, ethers, lactones, sulfoxides and amides.

✓ 16. The polymerizable composition for solid polymer electrolytes as claimed in claim 8, wherein the organic solvent is at least one selected from the group consisting of carbonates, aliphatic esters, ethers, lactones, sulfoxides and amides.

✓ 17. A battery comprising a solid polymer electrolyte as claimed in claim 1, a positive electrode and a negative electrode.

✓ 18. The battery as claimed in claim 17, which is a lithium primary or lithium secondary battery comprising at least one electrolyte salt selected from

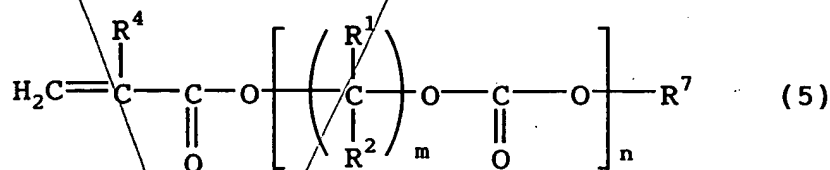
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the group consisting of LiPF_6 , LiBF_4 , LiAsF_6 and $\text{LiN}(\text{A-SO}_2)_2$, wherein A represents a perfluoroalkyl group having from 1 to 10 carbon atoms.

19. An electric double-layer capacitor comprising a solid polymer electrolyte as claimed in claim 1 or 2, and a pair of polarizable electrodes. 36/525

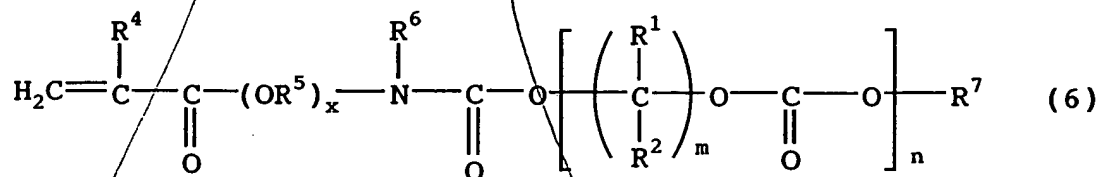
20. An electrochromic device comprising a solid polymer electrolyte as claimed in claim 1 or 2, and an electrochromic layer. 282/800 359/270

21. A polymerizable compound represented by formula (5):



wherein each R^1 and R^2 independently represents a hydrogen atom, a linear, branched or cyclic alkyl group having from 1 to 10 carbon atoms, a linear, branched or cyclic alkoxy group having from 1 to 10 carbon atoms or a linear, branched or cyclic alkoxyalkyl group having from 1 to 10 carbon atoms, m represents an integer of 3 to 10, n represents an integer of 1 to 500, R^4 represents hydrogen or a linear, branched or cyclic alkyl group having from 1 to 10 carbon atoms, R^7 represents a chained, branched and/or cyclic organic group having from 1 to 30 carbon atoms, which can contain a heteroatom and/or an unsaturated bond, and each R^1 , R^2 , R^4 , and R^7 and each value of m and n, provided that R^1 or R^2 present in plurality within the same molecule are not a hydrogen atom at the same time.

22. A polymerizable compound represented by formula (6):



wherein each R^1 and R^2 independently represents a hydrogen atom, a linear, branched or cyclic alkyl group having from 1 to 10 carbon atoms, a linear, branched or cyclic alkoxy group having from 1 to 10 carbon atoms or a linear, branched or cyclic alkoxyalkyl group having from 1 to 10 carbon atoms, m

prody plus

represents an integer of 3 to 10, n represents an integer of 1 to 500, x represents 0 or 1, R⁴ represents a hydrogen atom or a linear, branched or cyclic alkyl group having from 1 to 10 carbon atoms, R⁷ represents a chained, branched and/or
10 cyclic organic group having from 1 to 30 carbon atoms, which can contain a heteroatom and/or an unsaturated bond, R⁶ represents a hydrogen atom, a linear, branched or cyclic alkyl group having from 1 to 10 carbon atoms, a linear, branched or cyclic alkoxy group having from 1 to 10 carbon atoms or a linear, branched or cyclic alkoxyalkyl group having from 1 to 10 carbon atoms, R⁷
15 represents a chained, branched and/or cyclic organic group having from 1 to 30 carbon atoms, which may contain a heteroatom and/or an unsaturated bond, and each R¹, R², R⁴, R⁵, R⁶, and R⁷ and each value of m and n can be the same or different, provided that R¹ or R² present in plurality within the same molecule are not a hydrogen atom at the same time.

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* NOTICES *

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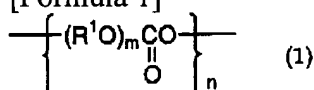
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CLAIMS

[Claim(s)]

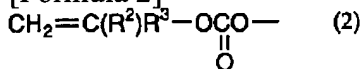
[Claim 1] General formula (1)

[Formula 1]



Among [formula, R1 expresses the divalent basis in which the shape of a chain, the letter of branching, or the annular hetero atom of 1-10 may be included, m is the integer of 1-10, and the carbon number of n is an integer of 1-1000. However, R1 existing [two or more] may be the same respectively, and may differ.] The carbonate machine come out of and shown, and the following general formula (2)

[Formula 2]



[-- R2 expresses a hydrogen atom or the alkyl group of carbon numbers 1-6 among a formula, and R3 expresses the divalent basis which consists of the shape of a chain, the letter of branching, or the annular hydrocarbon of carbon numbers 1-10] The solid polymer electrolyte containing at least the polymer of a kind of polymerization [at least] nature compound which comes out and has the polymerization nature functional group shown, and a kind of electrolyte salt.

[Claim 2] The solid polymer electrolyte according to claim 1 which contains a kind of organic solvent at least.

[Claim 3] The solid polymer electrolyte according to claim 1 or 2 which contains a kind of inorganic oxide at least.

[Claim 4] An electrolyte salt is the solid polymer electrolyte of an alkali-metal salt, quaternary ammonium salt, and the 4th class phosphonium salt according to claim 1 chosen from a kind at least.

[Claim 5] The solid polymer electrolyte according to claim 2 whose organic solvent is a carbonate system compound.

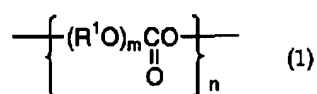
[Claim 6] The cell characterized by using a solid polymer electrolyte according to claim 1 to 5.

[Claim 7] The lithium cell according to claim 6 characterized by using at least one material chosen from the conductive high molecular compound which can carry out occlusion discharge of the inorganic chalcogenide and the lithium ion which can carry out occlusion discharge of a lithium, a lithium alloy, the carbon material that can carry out occlusion discharge of the lithium ion, the inorganic oxide which can carry out occlusion discharge of the lithium ion, and the lithium ion as a negative electrode of a cell.

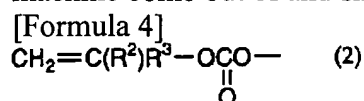
[Claim 8] The electric double layer capacitor to which the ion conductivity matter is characterized by being a solid polymer electrolyte according to claim 1 to 5 in the electric double layer capacitor which has arranged the polarizable electrode through the ion conductivity matter.

[Claim 9] General formula (1)

[Formula 3]

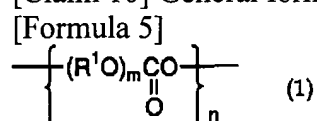


[-- the sign in a formula expresses the same meaning as the publication of a claim 1] The carbonate machine come out of and shown, and the following general formula (2)

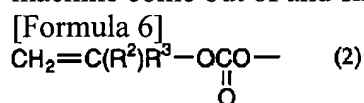


[-- the sign in a formula expresses the same meaning as the publication of a claim 1] The manufacture method of the solid polymer electrolyte which uses at least a kind of polymerization [at least] nature compound (A) which comes out and has the polymerization nature functional group shown, and a kind of electrolyte salt (B) as an indispensable component, and is characterized by carrying out the polymerization of the polymerization nature constituent at least further at least after arranging the polymerization nature constituent which may contain a kind of organic solvent (C) and/or a kind of inorganic oxide (D) on a base material.

[Claim 10] General formula (1)

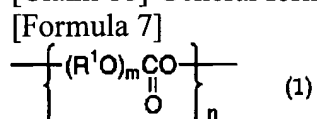


[-- the sign in a formula expresses the same meaning as the publication of a claim 1] The carbonate machine come out of and shown, and the following general formula (2)

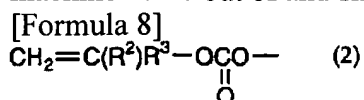


[-- the sign in a formula expresses the same meaning as the publication of a claim 1] At least a kind of polymerization nature compound which comes out and has the polymerization nature functional group shown (A), And after arranging the polymerization nature constituent which may use a kind of organic solvent (C) as an indispensable component at least, and may contain a kind of inorganic oxide (D) further at least on a base material, The manufacture method of the solid polymer electrolyte characterized by infiltrating an electrolyte salt (B) by carrying out the polymerization of the polymerization nature constituent, and contacting the obtained polymerization object to the electrolytic solution.

[Claim 11] General formula (1)



[-- the sign in a formula expresses the same meaning as the publication of a claim 1] The carbonate machine come out of and shown, and the following general formula (2)

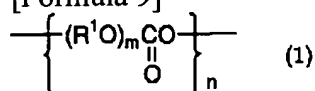


[-- the sign in a formula expresses the same meaning as the publication of a claim 1] The manufacture method of the cell characterized by carrying out the polymerization of the polymerization nature constituent after putting in the polymerization nature constituent which may contain at least [further] a kind of at least organic solvent and/or a kind of inorganic oxide in the structure for cell composition by

using at least a kind of polymerization [at least] nature compound which comes out and has the polymerization nature functional group shown, and a kind of electrolyte salt as an indispensable component or arranging on a base material.

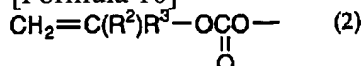
[Claim 12] General formula (1)

[Formula 9]



[-- the sign in a formula expresses the same meaning as the publication of a claim 1] The carbonate machine come out of and shown, and the following general formula (2)

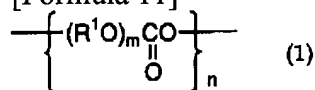
[Formula 10]



[-- the sign in a formula expresses the same meaning as the publication of a claim 1] At least a kind of polymerization nature compound which comes out and has the polymerization nature functional group shown, And use a kind of organic solvent as an indispensable component at least, and the polymerization nature constituent which may contain a kind of inorganic oxide further at least is put in in the structure for cell composition. Or the manufacture method of the cell characterized by infiltrating an electrolyte salt by carrying out the polymerization of the polymerization nature constituent, and contacting the obtained polymerization object to the electrolytic solution after arranging on a base material.

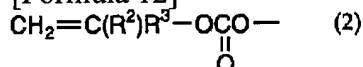
[Claim 13] General formula (1)

[Formula 11]



[-- the sign in a formula expresses the same meaning as the publication of a claim 1] The carbonate machine come out of and shown, and the following general formula (2)

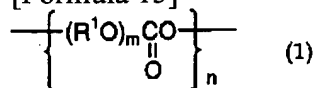
[Formula 12]



[-- the sign in a formula expresses the same meaning as the publication of a claim 1] The manufacture method of the electric double layer capacitor characterized by carrying out the polymerization of the polymerization nature constituent after putting in the polymerization nature constituent which may contain at least [further] a kind of at least organic solvent and/or a kind of inorganic oxide in the structure for electric-double-layer-capacitor composition by using at least a kind of polymerization [at least] nature compound which comes out and has the polymerization nature functional group shown, and a kind of electrolyte salt as an indispensable component or arranging on a base material.

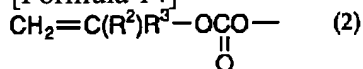
[Claim 14] General formula (1)

[Formula 13]



[-- the sign in a formula expresses the same meaning as the publication of a claim 1] The carbonate machine come out of and shown, and the following general formula (2)

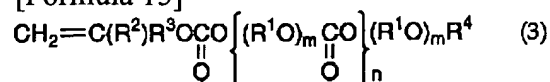
[Formula 14]



[-- the sign in a formula expresses the same meaning as the publication of a claim 1] At least a kind of polymerization nature compound which comes out and has the polymerization nature functional group shown, And use a kind of organic solvent as an indispensable component at least, and the polymerization nature constituent which may contain a kind of inorganic oxide further at least is put in in the structure for electric-double-layer-capacitor composition. Or the manufacture method of the electric double layer capacitor characterized by infiltrating an electrolyte salt by carrying out the polymerization of the polymerization nature constituent, and contacting the obtained polymerization object to the electrolytic solution after arranging on a base material.

[Claim 15] General formula (3)

[Formula 15]



As for R1, a carbon number expresses among [formula the divalent basis in which the shape of a chain, the letter of branching, or the annular hetero atom of 1-10 may be included. R2 expresses a hydrogen atom or the alkyl group of carbon numbers 1-6. R3 The shape of a chain of carbon numbers 1-10, The divalent basis which consists of a letter of branching or an annular hydrocarbon is expressed, R4 expresses the organic machine which may contain the shape of a chain, the letter of branching, or the annular hetero atom, m is the integer of 1-10, and n is the integer of 2-1000. However, R1 existing [two or more] may be the same respectively, and may differ.] The polymerization nature compound come out of and shown.

[Translation done.]

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Serial No.: **901122**

Series Code: **09**

Filed: **July 10, 2001**

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Intern'l Class: **H01M 010/40; H01M 006/18; H01G 009/038; G02F 001/15; C07C 069/96**

Foreign Application Data

Date	Code	Application Number
Jul 10, 2000	JP	P2000-207828

Claims

What is claimed is:

1. A solid polymer electrolyte comprising a polymer compound having a branched carbonate structure represented by formula (1) as a partial structure and at least one electrolyte salt: 24 wherein each R.sup.1 and R.sup.2 independently represents a hydrogen atom, a linear, branched or cyclic alkyl group having from 1 to 10 carbon atoms, a linear, branched or cyclic alkoxy group having from 1 to 10 carbon atoms or a linear, branched or cyclic alkoxyalkyl group having from 1 to 10 carbon atoms, m represents an integer of 3 to 10, n represents an integer of 1 to 500, and each R.sup.1 and R.sup.2 and each value of m and n can be the same or different, provided that R.sup.1 or R.sup.2 present in plurality within the same molecule are not a hydrogen atom at the same time.

2. A solid polymer electrolyte comprising a polymer compound having a branched carbonate structure represented by formula (2) as a partial structure and at least one electrolyte salt: 25 wherein R.sup.3 represents a hydrogen atom, a linear, branched or cyclic alkyl group having from 1 to 10 carbon atoms, a

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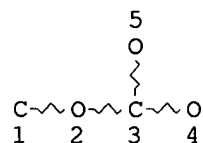
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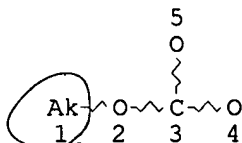
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 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE
 L8 884 SEA FILE=REGISTRY SUB=L5 SSS FUL L6
 L9 1026 SEA FILE=HCAPLUS ABB=ON L8
 L10 489 SEA FILE=HCAPLUS ABB=ON L9(L) (PREP OR IMF OR SPN)/RL
 L11 2 SEA FILE=HCAPLUS ABB=ON L10 AND BATTER?

=> D L11 1-2 ALL HITSTR

L11 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2003 ACS
 AN 2002:69527 HCAPLUS
 DN 136:143380
 TI Polymerizable polycarboante and polymer solid electrolyte
 IN Takeuchi, Masataka; Naijo, Shuichi; Nishioka, Ayako
 PA Showa Denko K. K., Japan
 SO Jpn. Kokai Tokkyo Koho, 25 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM H01B001-06
 ICS C08F002-44; C08F020-26; C08F020-36; C08F299-02; C08G064-02;
 G02F001-15; H01G009-038; H01M006-18; H01M010-40
 CC 76-2 (Electric Phenomena)
 Section cross-reference(s): 38, 52, 74
 FAN.CNT 1

applicant

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002025335	A2	20020125	JP 2000-207828	20000710
	US 2002018938	A1	20020214	US 2001-901122	20010710

PRAI JP 2000-207828 A 20000710
US 2000-245717P P 20001106

OS MARPAT 136:143380

AB The solid electrolyte contains a polymer involving branched carbonate repeating unit $[(CR_1R_2)mOCO_2]_n$ [I; R_1 and/or R_2 is C1-10 alkyl, C1-10 alkoxy, or C1-10 alkoxyalkyl each of which may be linear, branched, and cyclic; the rest of R_1 and $R_2 = H$; $m = 3-10$; $n = 1-500$] and .gtoreq.1 electrolyte salt. The polymerizable compd. is that represented as $H_2C:CR_4CO_2[(CR_1R_2)mOCO_2]_nR_7$ or $H_2C:CR_4CO(OR_5)_xN(R_6)CO_2[(CR_1R_2)mOCO_2]_nR_7$ [R_1, R_2, m, n are the same as I; $R_4 = H$, linear, branched, or cyclic C1-10 alkyl; $R_5 =$ divalent (hetero atom-contg.) linear, branched, or cyclic group; $R_6 = H$, linear, branched, or cyclic C1-10 alkyl, C1-10 alkoxy, C1-10 alkoxyalkyl; $R_7 =$ C1-30 linear, branched, and/or cyclic (hetero atom.-contg. and/or unsatd.) org. group; $x = 0, 1$]. A primary or secondary **battery**, a double-layer elec. capacitor, and an electrochromic device using the electrolyte are also claimed.

ST polymerizable compd polymer solid electrolyte; unsatd branched polycarbonate solid polymer electrolyte; primary secondary **battery** polymer electrolyte; double layer elec capacitor polymer electrolyte; electrochromic device polymer solid electrolyte

IT Polycarbonates, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(acrylic; unsatd. polycarbonate for polymer solid electrolyte for **battery**, capacitor, and electrochromic device)

IT Esters, uses
RL: NUU (Other use, unclassified); USES (Uses)
(aliph., solvent; unsatd. polycarbonate for polymer solid electrolyte for **battery** using)

IT Sulfonic acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(alkanesulfonic, salts, perfluoro, lithium salt, electrolyte; unsatd. polycarbonate for polymer solid electrolyte for **battery** using)

IT Capacitors
(double layer; unsatd. polycarbonate for polymer solid electrolyte for **battery**, capacitor, and electrochromic device)

IT Alkali metal salts
Phosphonium compounds
Quaternary ammonium compounds, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(electrolyte; unsatd. polycarbonate for polymer solid electrolyte for **battery** using)

IT Electrolytes
(salts; unsatd. polycarbonate for polymer solid electrolyte assocd. with)

IT Amides, uses
Carbonates, uses
Ethers, uses
Lactones
Sulfoxides
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; unsatd. polycarbonate for polymer solid electrolyte for **battery** using)

IT **Battery** electrolytes
Electrochromic devices
Polymer electrolytes
Primary **batteries**
Secondary **batteries**

Solid electrolytes

(unsatd. polycarbonate for polymer solid electrolyte for **battery**, capacitor, and electrochromic device)

IT 12190-79-3P, Lithium cobalt oxide (LiCoO₂)

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(electrolyte; unsatd. polycarbonate for polymer solid electrolyte for **battery** using)

IT 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 69444-47-9, Triethylmethylammonium tetrafluoroborate

RL: TEM (Technical or engineered material use); USES (Uses)

(electrolyte; unsatd. polycarbonate for polymer solid electrolyte for **battery** using)

IT 554-13-2, Lithium carbonate 1308-06-1, Cobalt oxide (Co₃O₄)

RL: RCT (Reactant); RACT (Reactant or reagent)

(lithium cobalt oxide from; unsatd. polycarbonate for polymer solid electrolyte for **battery** using)

IT 67421-99-2P 121447-57-2P 121447-58-3P

391953-66-5P 391953-67-6P 391953-68-7P

391953-69-8P 391953-70-1P 391953-71-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(unsatd. polycarbonate for polymer solid electrolyte for **battery**, capacitor, and electrochromic device)

IT 121447-57-2P 121447-58-3P 391953-66-5P

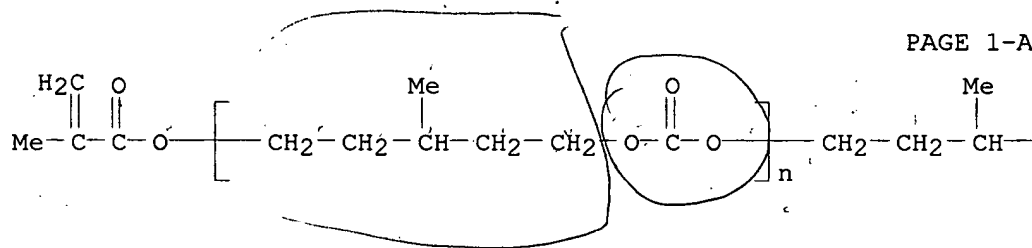
391953-67-6P 391953-68-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

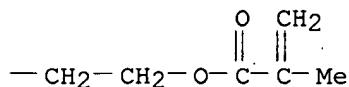
(unsatd. polycarbonate for polymer solid electrolyte for **battery**, capacitor, and electrochromic device)

RN 121447-57-2 HCAPLUS

CN Poly[oxy carbonyloxy(3-methyl-1,5-pentanediy)]-, .alpha.-[3-methyl-5-[(2-methyl-1-oxo-2-propenyl)oxy]pentyl]-.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



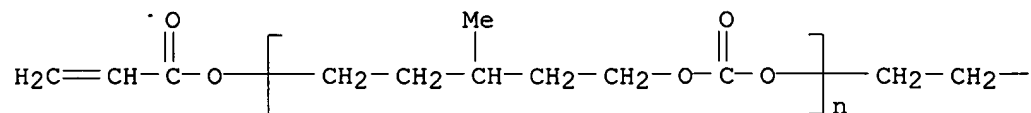
PAGE 1-B



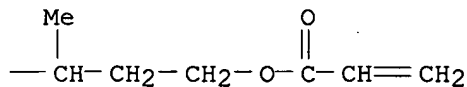
RN 121447-58-3 HCAPLUS

CN Poly[oxy carbonyloxy(3-methyl-1,5-pentanediy)]-, .alpha.-[3-methyl-5-[(1-oxo-2-propenyl)oxy]pentyl]-.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



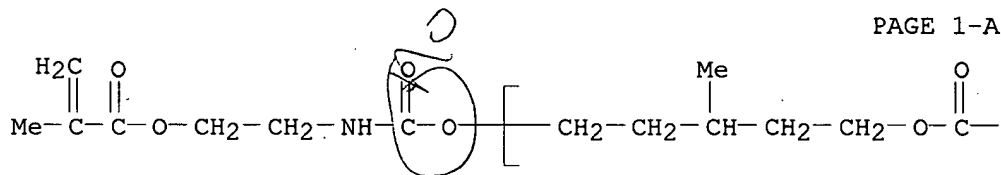
PAGE 1-B



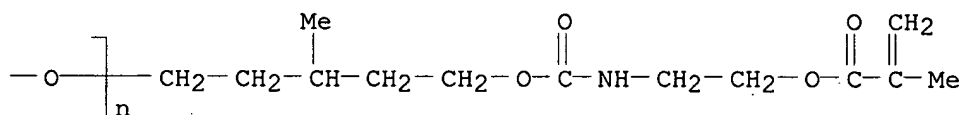
RN 391953-66-5 HCAPLUS

CN Poly[oxy carbonyloxy(3-methyl-1,5-pentanediy)] , .alpha.-[3-methyl-5-[[[2-
 [(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]pentyl]-.omega.-
 [[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]- (9CI)
 (CA INDEX NAME)

PAGE 1-A

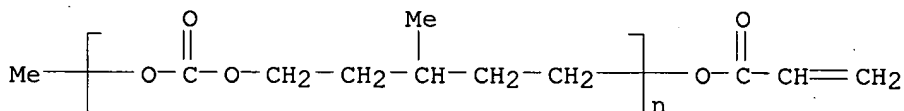


PAGE 1-B



RN 391953-67-6 HCAPLUS

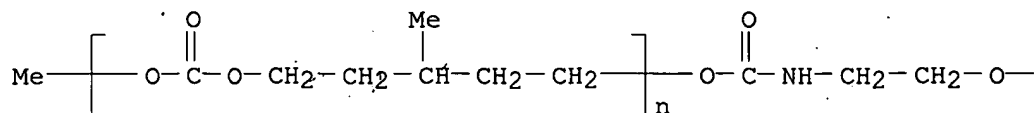
CN Poly[oxy carbonyloxy(3-methyl-1,5-pentanediy)] , .alpha.-methyl-.omega.-[(1-
 oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



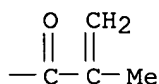
RN 391953-68-7 HCAPLUS

CN Poly[oxy carbonyloxy(3-methyl-1,5-pentanediy)] , .alpha.-methyl-.omega.-
 [[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]- (9CI)
 (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L11 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2003 ACS

AN 2000:313686 HCAPLUS

DN 132:336908

TI Polymer electrolyte secondary lithium **battery** using addition-polymerized fluorine-containing polycarbonate

IN Yoshida, Tomokazu; Teranishi, Tadashi; Kita, Yoshinori; Oshita, Ryuji; Noma, Toshiyuki; Nishio, Akiharu

PA Sanyo Electric Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01M010-40

ICS C08G064-02

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000133311	A2	<u>20000512</u>	JP 1998-321456	19981026
PRAI	JP 1998-321456		19981026		

AB The **battery** comprises a polymer electrolyte composed of a homopolymer of CR1R2:CR3R4OCO2R5CR6:CR7R8 (R1-3, R6-8 = H, C1-4 alkyl; .gtoreq.2 of R1-3, .gtoreq.2 of R6-8 = H; .gtoreq.1 of R1-3, .gtoreq.1 of R6-8 = F-substituted; R4, R5 = C1-4 alkylene) impregnated with a nonaq. electrolytic soln. The **battery** shows high discharge capacity and long cycle life.

ST polymer electrolyte lithium **battery** fluorine polycarbonate; addn polymn ethylenic carbonate **battery** electrolyte

IT Polycarbonates, uses

Polycarbonates, uses

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(fluorine-contg.; polymer electrolyte secondary lithium **battery** using addn.-polymd. fluorine-contg. polycarbonate)IT Secondary **batteries**(lithium; polymer electrolyte secondary lithium **battery** using addn.-polymd. fluorine-contg. polycarbonate)

IT Fluoropolymers, uses

Fluoropolymers, uses

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(polycarbonate-; polymer electrolyte secondary lithium **battery** using addn.-polymd. fluorine-contg. polycarbonate)

IT **Battery** electrolytes

(polymer electrolyte secondary lithium **battery** using addn.-polymd. fluorine-contg. polycarbonate)

IT 268215-70-9P 268215-72-1P 268215-74-3P **268215-76-5P**
268215-78-7P 268215-80-1P 268215-82-3P 268215-84-5P
268215-86-7P 268215-88-9P **268215-90-3P** 268215-92-5P
268215-94-7P 268215-96-9P

RL: DEV (Device component use); PNU (Preparation, unclassified); **PREP (Preparation)**; USES (Uses)

(polymer electrolyte secondary lithium **battery** using addn.-polymd. fluorine-contg. polycarbonate)

IT **268215-76-5P 268215-78-7P 268215-80-1P**
268215-86-7P 268215-90-3P 268215-94-7P
268215-96-9P

RL: DEV (Device component use); PNU (Preparation, unclassified); **PREP (Preparation)**; USES (Uses)

(polymer electrolyte secondary lithium **battery** using addn.-polymd. fluorine-contg. polycarbonate)

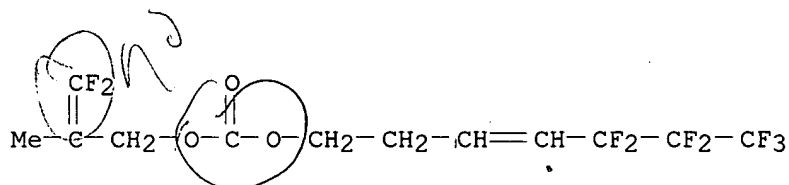
RN 268215-76-5 HCAPLUS

CN Carbonic acid, 3,3-difluoro-2-methyl-2-propenyl 5,5,6,6,7,7,7-heptafluoro-3-heptenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 268215-75-4

CMF C12 H11 F9 O3



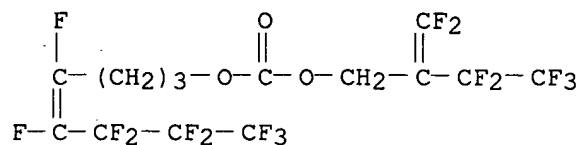
RN 268215-78-7 HCAPLUS

CN Carbonic acid, 2-(difluoromethylene)-3,3,4,4,4-pentafluorobutyl 4,5,6,6,7,7,8,8,8-nonafluoro-4-octenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 268215-77-6

CMF C14 H8 F16 O3

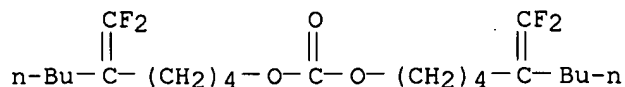


RN 268215-80-1 HCAPLUS

CN 1-Nonanol, 5-(difluoromethylene)-, carbonate (2:1), homopolymer (9CI) (CA INDEX NAME)

CM 1

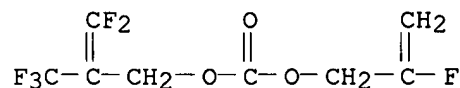
CRN 268215-79-8
CMF C21 H34 F4 O3



RN 268215-86-7 HCAPLUS
CN Carbonic acid, 3,3-difluoro-2-(trifluoromethyl)-2-propenyl
2-fluoro-2-propenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

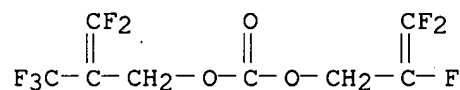
CRN 268215-85-6
CMF C8 H6 F6 O3



RN 268215-90-3 HCAPLUS
CN Carbonic acid, 3,3-difluoro-2-(trifluoromethyl)-2-propenyl
2,3,3-trifluoro-2-propenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

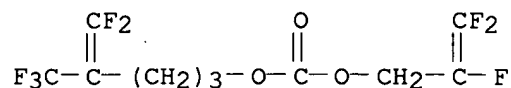
CRN 268215-89-0
CMF C8 H4 F8 O3



RN 268215-94-7 HCAPLUS
CN Carbonic acid, 5,5-difluoro-4-(trifluoromethyl)-4-pentenyl
2,3,3-trifluoro-2-propenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 268215-93-6
CMF C10 H8 F8 O3

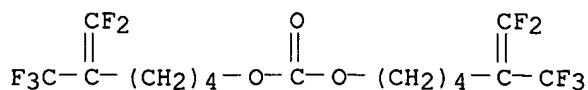


RN 268215-96-9 HCAPLUS
CN 5-Hexen-1-ol, 6,6-difluoro-5-(trifluoromethyl)-, carbonate (2:1),
homopolymer (9CI) (CA INDEX NAME)

CM 1

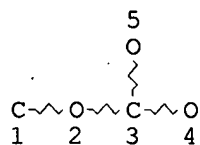
CRN 268215-95-8

CMF C15 H16 F10 O3



=> D QUE

L1 STR



NODE ATTRIBUTES:

CONNECT IS E1 RC AT 5

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

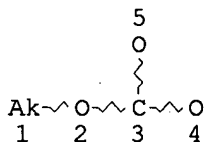
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L3 SCR 2043

L5 6171 SEA FILE=REGISTRY SSS FUL L1 AND L3

L6 STR



NODE ATTRIBUTES:

CONNECT IS E1 RC AT 5

DEFAULT MLEVEL IS ATOM

GGCAT IS BRA AT 1

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L8 884 SEA FILE=REGISTRY SUB=L5 SSS FUL L6

L9 1026 SEA FILE=HCAPLUS ABB=ON L8

L10 489 SEA FILE=HCAPLUS ABB=ON L9(L) (PREP OR IMF OR SPN)/RL

L11 2 SEA FILE=HCAPLUS ABB=ON L10 AND BATTER?

L12 6495 SEA FILE=HCAPLUS ABB=ON L5
 L13 2377 SEA FILE=HCAPLUS ABB=ON L12(L) (PREP OR IMF OR SPN)/RL
 L14 44 SEA FILE=HCAPLUS ABB=ON L13 AND BATTER?
 L15 7 SEA FILE=HCAPLUS ABB=ON L14 AND BRANCH?
 L16 6 SEA FILE=HCAPLUS ABB=ON L15 NOT L11

=> D L16 1-6 ALL HITSTR

L16 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:734227 HCAPLUS

DN 137:256174

TI Crosslinked conductive polymers with stable conductivity under various conditions having flexible polyoxyalkylene-polycarbonate groups

IN Kijima, Tetsuo; Toyama, Yasunori; Akimoto, Mamoru; Nozu, Takashi; Kobayashi, Toshihide

PA Nippon Polyurethane Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01B001-12

ICS C08F002-44; C08F220-28; C08F287-00; C08F290-14; C08G018-38; C08G018-46; C08G018-50; H01M010-40

CC 76-2 (Electric Phenomena)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002279827	A2	20020927	JP 2001-76344	20010316
PRAI	JP 2001-76344		20010316		
AB	The crosslinked polymers, useful for batteries , capacitors, etc., comprise compds. having a structure unit $R_1(OR_2)nO(R_3OCO_2)_m$ ($R_1 = C1-5-alkyl$; $R_2, R_3 = C2-10-linear, branched, cyclic aliph. group$; $m, n \geq 1$) and compds. having multiple polymerizable groups. The polyoxyalkylene-polycarbonate groups may be linked with the main chains via acryloyl groups or carbamate groups.				
ST	conductive polymer polyoxyalkylene polycarbonate flexible pendant; polymer electrolyte crosslinked cond stability				
IT	Polymer electrolytes (crosslinked polymer electrolytes with stable cond. having flexible polyoxyalkylene-polycarbonate groups)				
IT	Polyoxyalkylenes, uses RL: TEM (Technical or engineered material use); USES (Uses) (polycarbonate-, acrylic; crosslinked polymer electrolytes with stable cond. having flexible polyoxyalkylene-polycarbonate groups)				
IT	Polyurethanes, uses RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polycarbonate-polyoxyalkylene-; crosslinked polymer electrolytes with stable cond. having flexible polyoxyalkylene-polycarbonate groups)				
IT	Polyoxyalkylenes, uses RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polycarbonate-polyurethane-; crosslinked polymer electrolytes with stable cond. having flexible polyoxyalkylene-polycarbonate groups)				
IT	Polycarbonates, uses RL: TEM (Technical or engineered material use); USES (Uses)				

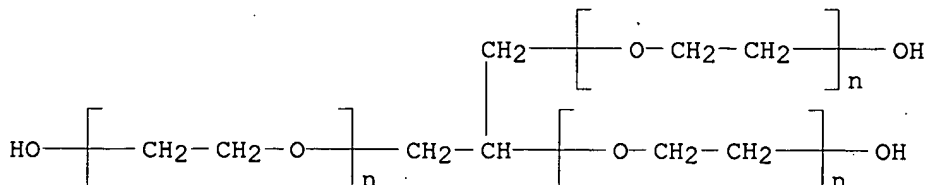
- (polyoxyalkylene-, acrylic; crosslinked polymer electrolytes with stable cond. having flexible polyoxyalkylene-polycarbonate groups)
- IT Polycarbonates, uses
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-polyurethane-; crosslinked polymer electrolytes with stable cond. having flexible polyoxyalkylene-polycarbonate groups)
- IT **460986-47-4DP**, Diethyl carbonate-ethoxylated glycerin-1,6-hexanediol-MDI copolymer, carbamates with polyethylene glycol monomethyl ether **460986-48-5DP**, carbamates with polyethylene glycol monomethyl ether **460986-49-6DP**, carbamates with polyethylene glycol monomethyl ether **460986-50-9DP**, carbamates with polyethylene glycol monomethyl ether
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (crosslinked polymer electrolytes with stable cond. having flexible polyoxyalkylene-polycarbonate groups)
- IT 7439-93-2, Lithium, uses
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (dopant; crosslinked polymer electrolytes with stable cond. having flexible polyoxyalkylene-polycarbonate groups)
- IT **460986-47-4DP**, Diethyl carbonate-ethoxylated glycerin-1,6-hexanediol-MDI copolymer, carbamates with polyethylene glycol monomethyl ether **460986-48-5DP**, carbamates with polyethylene glycol monomethyl ether **460986-49-6DP**, carbamates with polyethylene glycol monomethyl ether **460986-50-9DP**, carbamates with polyethylene glycol monomethyl ether
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (crosslinked polymer electrolytes with stable cond. having flexible polyoxyalkylene-polycarbonate groups)
- RN 460986-47-4 HCAPLUS
- CN Carbonic acid, diethyl ester, polymer with 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene] and .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 31694-55-0

CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C3 H8 O3

CCI PMS



CM 2

CRN 629-11-8

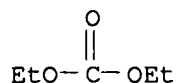
CMF C6 H14 O2

HO-(CH₂)₆-OH

CM 3

CRN 105-58-8

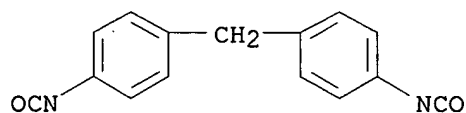
CMF C5 H10 O3



CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



RN 460986-48-5 HCAPLUS

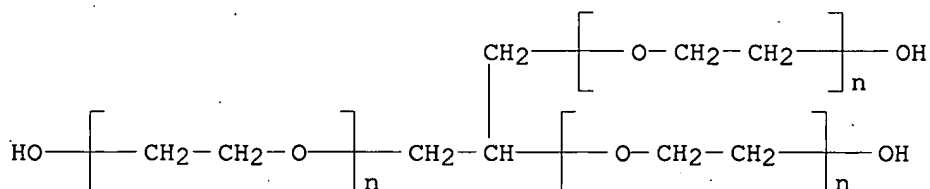
CN Carbonic acid, diethyl ester, polymer with 1,1'-methylenebis[4-isocyanatobenzene], 3-methyl-1,5-pentanediol and .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 31694-55-0

CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C3 H8 O3

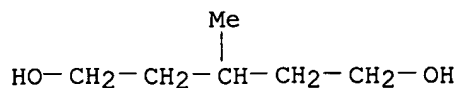
CCI PMS



CM 2

CRN 4457-71-0

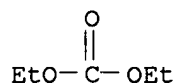
CMF C6 H14 O2



CM 3

CRN 105-58-8

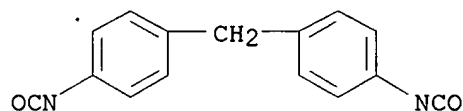
CMF C5 H10 O3



CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



RN 460986-49-6 HCAPLUS

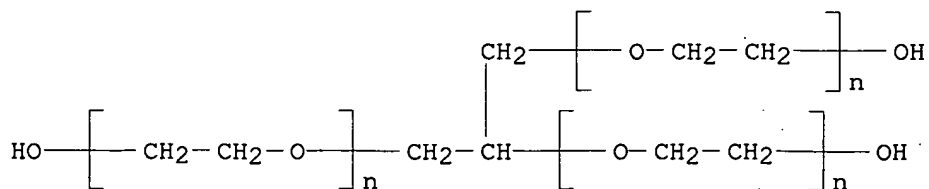
CN Carbonic acid, diethyl ester, polymer with 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene], 3-methyl-1,5-pentanediol and .alpha.,.alpha.',.alpha.'-1,2,3-propanetriyltris[.omega.-hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 31694-55-0

CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C3 H8 O3

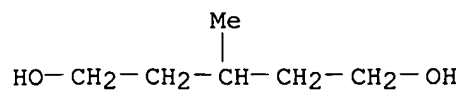
CCI PMS



CM 2

CRN 4457-71-0

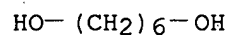
CMF C6 H14 O2



CM 3

CRN 629-11-8

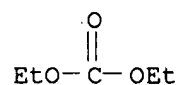
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CM 4

CRN 105-58-8

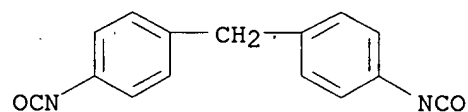
CMF C5 H10 O3



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



RN 460986-50-9 HCAPLUS

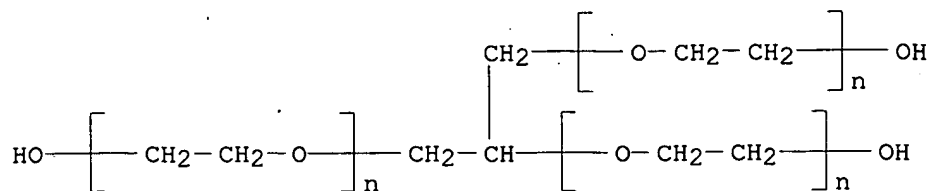
CN Carbonic acid, diethyl ester, polymer with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene] and .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 31694-55-0

CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C3 H8 O3

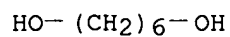
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CM 2

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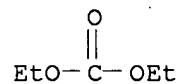
CMF C6 H14 O2



CM 3

CRN 105-58-8

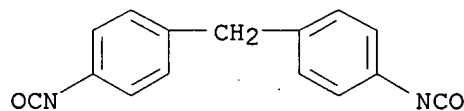
CMF C5 H10 O3



CM 4

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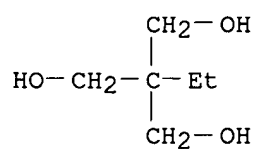
CMF C15 H10 N2 O2



CM 5

CRN 77-99-6

CMF C6 H14 O3



L16 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2003 ACS
 AN 2002:727146 HCAPLUS
 DN 137:248720
 TI Crosslinkable polycarbonates with good stability and weather resistance
 IN Kijima, Tetsuo; Toyama, Yasunori; Akimoto, Mamoru; Nozu, Takashi;
 Kobayashi, Toshihide
 PA Nippon Polyurethane Industry Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08G018-44
 ICS C08F299-02; H01B001-06; H01M004-62; H01M008-02; H01M010-40
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 52
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002275234	A2	20020925	JP 2001-76375	20010316
PRAI	JP 2001-76375		20010316		

AB The polycarbonates, useful as electrode binders, polymer electrolytes for secondary **batteries**, etc., are prep'd. by polymn. of polycarbonates contg. (R1OCO2)m and (R2OCO2)n [R1 = hetero atom-contg. C2-10 divalent group; R2 = hetero atom-contg. cyclic or **branched** C2-10 divalent group; m, n > 0]. Thus, a soln. contg. a polycarbonate diol (Mn 500, m/n 7/3) prep'd. from 1,6-hexamethylenediol, 3-methyl-1,5-pentanediol, and di-Et carbonate, MDI, ethoxylated glycerin, and LiCF3SO3 as a dopant was applied on an electrode and cured to give a crosslinked polymer electrolyte with ion cond. at 25.degree. and relative humidity 55% 2 .times. 10-4 Scm-1.

ST crosslinked polymer polycarbonate electrode binder secondary **battery**; hexamethylenediol methylpentanediol carbonate MDI polyoxyethylene glycerin polymer; polymer electrolyte lithium fluoromethanesulfonate polyoxyethylene polycarbonate complex

IT **Battery** electrodes
Battery electrolytes
 Secondary **batteries**
 (crosslinkable polycarbonates with good stability and weather resistance)

IT Binders
 (for secondary **battery** electrode; crosslinkable polycarbonates with good stability and weather resistance)

IT Polymer electrolytes
 (for secondary **battery**; crosslinkable polycarbonates with good stability and weather resistance)

IT Polyurethanes, uses
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polycarbonate-; crosslinkable polycarbonates with good stability and weather resistance)

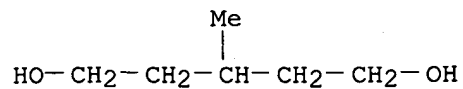
IT Polyurethanes, uses
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polycarbonate-polyether-, lithium complexes, trifluoromethanesulfonate-contg.; crosslinkable polycarbonates with good stability and weather resistance)

- IT Polyurethanes, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polycarbonate-polyoxyalkylene-, lithium complexes, trifluoromethanesulfonate-contg.; crosslinkable polycarbonates with good stability and weather resistance)
- IT Polyethers, uses
Polyoxyalkylenes, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polycarbonate-polyurethane-, lithium complexes, trifluoromethanesulfonate-contg.; crosslinkable polycarbonates with good stability and weather resistance)
- IT Polycarbonates, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-polyurethane-, lithium complexes, trifluoromethanesulfonate-contg.; crosslinkable polycarbonates with good stability and weather resistance)
- IT Polycarbonates, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyoxyalkylene-polyurethane-, lithium complexes, trifluoromethanesulfonate-contg.; crosslinkable polycarbonates with good stability and weather resistance)
- IT Polycarbonates, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyurethane-; crosslinkable polycarbonates with good stability and weather resistance)
- IT **140936-35-2P 461317-47-5P 461317-52-2P 461317-57-7P**
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(crosslinkable polycarbonates with good stability and weather resistance)
- IT 7439-93-2DP, Lithium, polyoxyethylene-polycarbonate complexes, trifluoromethanesulfonate-contg. **460986-49-6DP**, lithium complexes, trifluoromethanesulfonate-contg. **461317-67-9DP**, lithium complexes, trifluoromethanesulfonate-contg. **461317-73-7DP**, lithium complexes, trifluoromethanesulfonate-contg. **461317-78-2DP**, lithium complexes, trifluoromethanesulfonate-contg. **461317-83-9P**
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(crosslinkable polycarbonates with good stability and weather resistance)
- IT **140936-35-2P 461317-47-5P 461317-52-2P 461317-57-7P**
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(crosslinkable polycarbonates with good stability and weather resistance)
- RN 140936-35-2 HCAPLUS
- CN Carbonic acid, diethyl ester, polymer with 1,6-hexanediol and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 4457-71-0

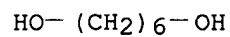
CMF C6 H14 O2



CM 2

CRN 629-11-8

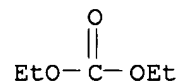
CMF C6 H14 O2



CM 3

CRN 105-58-8

CMF C5 H10 O3



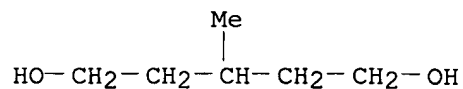
RN 461317-47-5 HCAPLUS.

CN Carbonic acid, diethyl ester, polymer with 2,2'-[1,2-ethanediylbis(oxy)]bis[ethanol] and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 4457-71-0

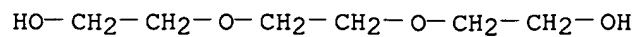
CMF C6 H14 O2



CM 2

CRN 112-27-6

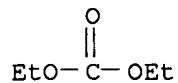
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CM 3

CRN 105-58-8

CMF C5 H10 O3



RN 461317-52-2 HCAPLUS

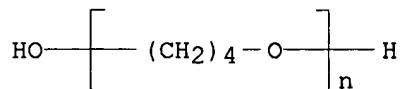
CN Carbonic acid, diethyl ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,4-butanediyl) and 3-methyl-1,5-pentanediol, block (9CI)
(CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)_n H2 O

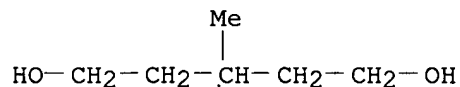
CCI PMS



CM 2

CRN 4457-71-0

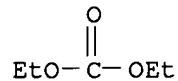
CMF C6 H14 O2



CM 3

CRN 105-58-8

CMF C5 H10 O3



RN 461317-57-7 HCAPLUS

CN Carbonic acid, diethyl ester, polymer with cyclohexanediol and 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 28553-75-5
CMF C6 H12 O2
CCI IDS



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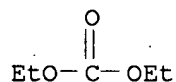
CM 2

CRN 629-11-8
CMF C6 H14 O2

HO-(CH₂)₆-OH

CM 3

CRN 105-58-8
CMF C5 H10 O3



IT 460986-49-6DP, lithium complexes, trifluoromethanesulfonate-contg.
461317-67-9DP, lithium complexes, trifluoromethanesulfonate-contg.
461317-73-7DP, lithium complexes, trifluoromethanesulfonate-contg.
461317-78-2DP, lithium complexes, trifluoromethanesulfonate-contg.
461317-83-9P

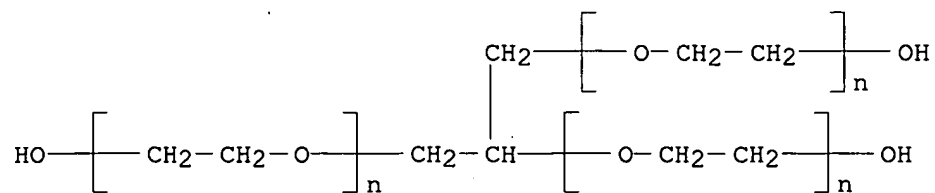
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinkable polycarbonates with good stability and weather resistance)

RN 460986-49-6 HCAPLUS

CN Carbonic acid, diethyl ester, polymer with 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene], 3-methyl-1,5-pentanediol and .alpha.,.alpha.',.alpha.'-1,2,3-propanetriyltris[.omega.-hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

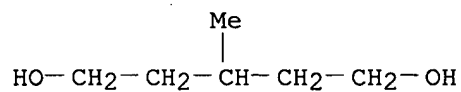
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CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C3 H8 O3
CCI PMS



CM 2

CRN 4457-71-0

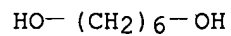
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CM 3

CRN 629-11-8

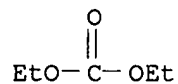
CMF C6 H14 O2



CM 4

CRN 105-58-8

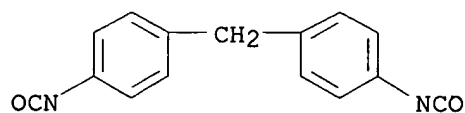
CMF C5 H10 O3



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



RN 461317-67-9 HCAPLUS

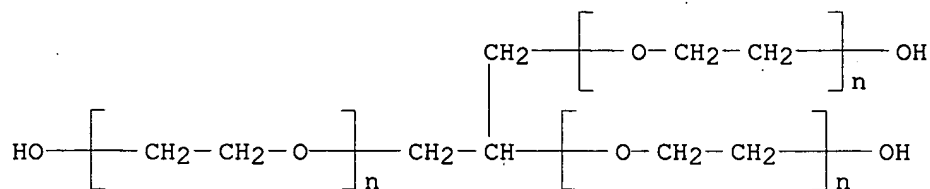
CN Carbonic acid, diethyl ester, polymer with 2,2'-[1,2-ethanediylbis(oxy)]bis[ethanol], 1,1'-methylenebis[4-isocyanatobenzene], 3-methyl-1,5-pentanediol and .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 31694-55-0

CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C3 H8 O3

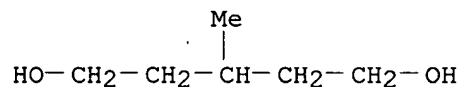
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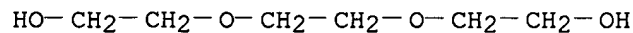
CMF C6 H14 O2



CM 3

CRN 112-27-6

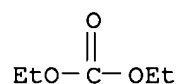
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CM 4

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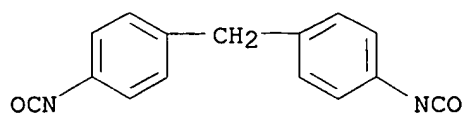
CMF C5 H10 O3



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



RN 461317-73-7 HCAPLUS

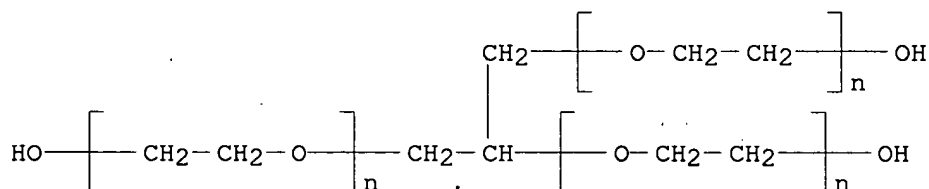
CN Carbonic acid, diethyl ester, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,4-butanediyl), 1,1'-methylenebis[4-isocyanatobenzene], 3-methyl-1,5-pentanediol and .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 31694-55-0

CMF (C2 H4 O)_n (C2 H4 O)_n (C2 H4 O)_n C3 H8 O3

CCI PMS

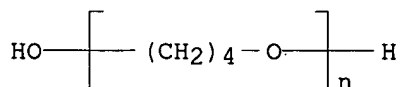


CM 2

CRN 25190-06-1

CMF (C4 H8 O)_n H2 O

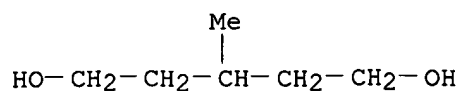
CCI PMS



CM 3

CRN 4457-71-0

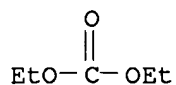
CMF C6 H14 O2



CM 4

CRN 105-58-8

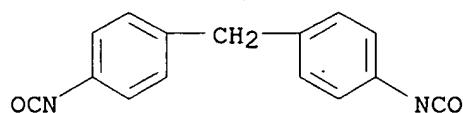
CMF C5 H10 O3



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



RN 461317-78-2 HCAPLUS

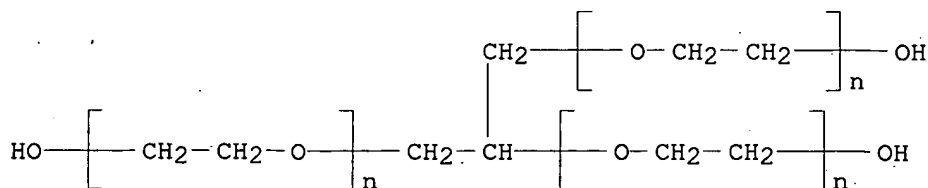
CN Carbonic acid, diethyl ester, polymer with cyclohexanediol, 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene] and .alpha.,.alpha.',.alpha.''-1,2,3-propanetriyltris[.omega.-hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 31694-55-0

CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C3 H8 O3

CCI PMS



CM 2

CRN 28553-75-5

CMF C6 H12 O2

CCI IDS



2 (D1-OH)

CM 3

CRN 629-11-8

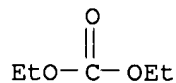
CMF C6 H14 O2

HO-(CH₂)₆-OH

CM 4

CRN 105-58-8

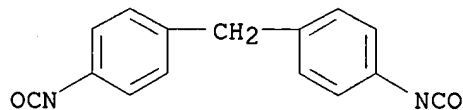
CMF C5 H10 O3



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



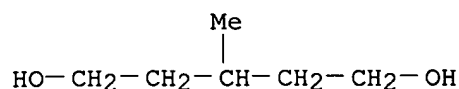
RN 461317-83-9 HCAPLUS

CM Carbonic acid, diethyl ester, polymer with 1,6-hexanediol,
1,1'-methylenebis[4-isocyanatobenzene] and 3-methyl-1,5-pentanediol (9CI)
(CA INDEX NAME)

CM 1

CRN 4457-71-0

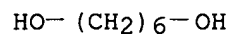
CMF C6 H14 O2



CM 2

CRN 629-11-8

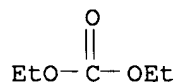
CMF C6 H14 O2



CM 3

CRN 105-58-8

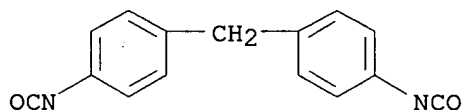
CMF C5 H10 O3



CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



L16 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2003 ACS

AN 2000:889424 HCAPLUS

DN 134:44553

TI Polycarbonate polyols, polycarbonate polyol (meth)acrylates, and their application to solid polymer electrolytes

IN Ishitoku, Takeshi; Nogi, Hidenobu

PA Mitsui Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G064-30

ICS C08F299-02; C08G064-02; C08G064-22; C08G064-42; H01B001-06;
H01M006-18; H01M010-40CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 35, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000351843	A2	20001219	JP 1999-163632	19990610
PRAI	JP 1999-163632		19990610		

AB The polycarbonate polyols are polycondensation products of HO(CH₂CH₂O)_nH (n = 2-10), HOROH (R = linear, **branched**, or cyclic C₄-20 alkylene which may have ether linkages, excluding oxyethylene), and carbonyl compds. selected from carbonate diesters, COCl₂, and chloroformate esters. (meth)acrylate esters of the polycarbonate polyols, polymers of the polycarbonate polyol (meth)acrylates, and solid polymer electrolytes contg. Group Ia metals in the polycarbonate (meth)acrylates are also claimed. The polymer electrolytes are useful for primary and secondary **batteries**, capacitors, etc. Thus, a solid polymer electrolyte from LiPF₆ and diethylene glycol-1,6-hexanediol-dimethyl carbonate copolymer acrylate showed ionic cond. 3.7 mS/cm.

ST polycarbonate polyol acrylate polymer electrolyte **battery**;
methacrylate polycarbonate polyol prepn capacitor electrolyte

IT Alkali metal complexes
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(electrolytes; prepn. of polycarbonate polyol (meth)acrylates for solid polymer electrolytes)

IT Conducting polymers
(ionic; prepn. of polycarbonate polyol (meth)acrylates for solid polymer electrolytes)

IT Ionic conductors.
(polymeric; prepn. of polycarbonate polyol (meth)acrylates for solid polymer electrolytes)

IT Polycarbonates, uses
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(polyols, (meth)acrylates; prepn. of polycarbonate polyol (meth)acrylates for solid polymer electrolytes)

IT **Battery** electrolytes
Capacitor electrodes
Polymer electrolytes
(prepn. of polycarbonate polyol (meth)acrylates for solid polymer electrolytes)

IT 7439-93-2DP, Lithium, polycarbonate polyol (meth)acrylate complexes, uses 21324-40-3DP, Lithium hexafluorophosphate, polycarbonate polyol (meth)acrylate complexes **312582-95-9DP**, Diethylene glycol-dimethyl carbonate-1,6-hexanediol copolymer acrylate, lithium complexes **312582-97-1DP**, 1,4-Butanediol-diethylene glycol-dimethyl carbonate copolymer acrylate, lithium complexes **312582-99-3DP**, Diethylene glycol-dimethyl carbonate-3-methyl-1,5-pentanediol copolymer acrylate, lithium complexes **312583-01-0DP**, Diethylene glycol-dimethyl carbonate-dipropylene glycol copolymer acrylate, lithium complexes
RL: DEV (Device component use); IMF (**Industrial manufacture**); PRP (Properties); PREP (**Preparation**); USES (Uses)
(prepn. of polycarbonate polyol (meth)acrylates for solid polymer electrolytes)

IT **312582-95-9DP**, Diethylene glycol-dimethyl carbonate-1,6-hexanediol copolymer acrylate, lithium complexes **312582-97-1DP**, 1,4-Butanediol-diethylene glycol-dimethyl carbonate copolymer acrylate, lithium complexes **312582-99-3DP**, Diethylene glycol-dimethyl carbonate-3-methyl-1,5-pentanediol copolymer acrylate, lithium complexes

312583-01-ODP, Diethylene glycol-dimethyl carbonate-dipropylene glycol copolymer acrylate, lithium complexes
 RL: DEV (Device component use); IMF (Industrial manufacture);
 PRP (Properties); PREP (Preparation); USES (Uses)
 (prepn. of polycarbonate polyol (meth)acrylates for solid polymer electrolytes)

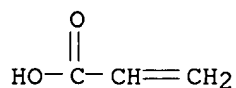
RN 312582-95-9 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2,2'-oxybis[ethanol], 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 312582-94-8

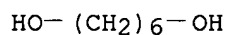
CMF (C6 H14 O2 . C4 H10 O3 . C3 H6 O3)x

CCI PMS

CM 3

CRN 629-11-8

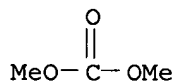
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CM 4

CRN 616-38-6

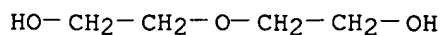
CMF C3 H6 O3



CM 5

CRN 111-46-6

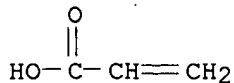
CMF C4 H10 O3



RN 312582-97-1 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and
 2,2'-oxybis[ethanol], 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
 CMF C3 H4 O2

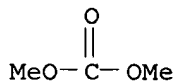


CM 2

CRN 312582-96-0
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 CCI PMS

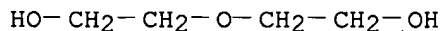
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CRN 616-38-6
 CMF C3 H6 O3



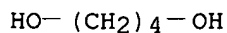
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CRN 111-46-6
 CMF C4 H10 O3



CM 5

CRN 110-63-4
 CMF C4 H10 O2

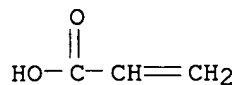


RN 312582-99-3 HCAPLUS
 CN Carbonic acid, dimethyl ester, polymer with 3-methyl-1,5-pentanediol and
 2,2'-oxybis[ethanol], 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 312582-98-2

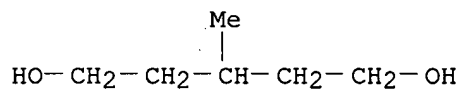
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CCI PMS

CM 3

CRN 4457-71-0

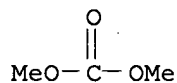
CMF C6 H14 O2



CM 4

CRN 616-38-6

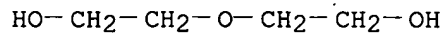
CMF C3 H6 O3



CM 5

CRN 111-46-6

CMF C4 H10 O3



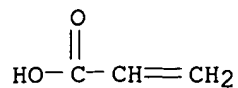
RN 312583-01-0 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 2,2'-oxybis[ethanol] and oxybis[propanol], 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 312583-00-9

CMF (C6 H14 O3 . C4 H10 O3 . C3 H6 O3)x

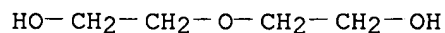
CCI PMS

CM 3

CRN 25265-71-8

CMF C6 H14 O3

CCI IDS

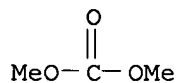


2 (D1-Me)

CM 4

CRN 616-38-6

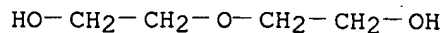
CMF C3 H6 O3



CM 5

CRN 111-46-6

CMF C4 H10 O3



L16 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2003 ACS

AN 2000:861966 HCAPLUS

DN 134:31200

TI Polymerizable compound and solid polymer electrolyte using the same for
batteries and electrical double layer capacitors

IN Takeuchi, Masataka; Naijo, Shuichi; Ohkubo, Takashi; Nishioka, Ayako;

Nishioka, Masaaki

PA Showa Denko K.K., Japan

SO PCT Int. Appl., 122 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM H01M006-18

ICS C08G064-02; C08G064-42

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 35, 38, 76

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000074158	A1	20001207	WO 1999-JP2861	19990528
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9939566	A1	20001218	AU 1999-39566	19990528
EP 1110260	A1	20010627	EP 1999-922574	19990528
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRAI WO 1999-JP2861 A 19990528

AB The polymer compd. of the invention which contains a poly- or oligo-carbonate group and is preferably obtained by utilizing a polymn. reaction using a polymerizable functional group represented by formula $\text{CH}_2\text{:CR}_2\text{CO}_2$ and/or formula $\text{CH}_2\text{:CR}_3\text{CO}_2(\text{OR}_4)_x\text{NHCO}_2$ ($\text{R}_2, \text{R}_3 = \text{H}$ or C1-6 alkyl; $\text{R}_4 =$ an unbranched, **branched** or cyclic divalent group with 1-10 C atoms, which may also contain a heteroatom; and $x = 1-10$) exhibits good strength even when it is formed into a thin film and has high ion cond. and excellent workability. By the use of this polymer compd., solid polymer electrolyte, **battery** and/or elec. double layer capacitor having high-temp. characteristics and large current characteristics are provided.

ST **battery** polymer electrolyte; capacitor elec double layer polymer electrolyte; polycarbonate electrolyte **battery** capacitor

IT Fluoropolymers, uses

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(binder; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)

IT Capacitors

(double layer; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)

IT Secondary **batteries**

(lithium; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)

IT Polymerization

(oligomerization; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)

IT Polymerization

(photopolymn.; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)

- IT **Battery** electrolytes
Conducting polymers
Ionic conductivity
Polymer electrolytes
(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT Alkali metal salts
Carbonaceous materials (technological products)
Phosphonium compounds
Quaternary ammonium compounds, uses
RL: DEV (Device component use); USES (Uses)
(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT Polycarbonates, uses
RL: DEV (Device component use); POF (Polymer in formulation); RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT Carbon black, uses
RL: MOA (Modifier or additive use); USES (Uses)
(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT Epoxy resins, uses
RL: DEV (Device component use); USES (Uses)
(seal; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT Lithium alloy, base
RL: DEV (Device component use); USES (Uses)
(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 96-49-1DP, Ethylene carbonate, reaction product with polymer contg. poly- or oligo-carbonate group 105-58-8DP, Diethyl carbonate, reaction product with polymer contg. poly- or oligo-carbonate group 623-53-ODP, Ethyl methyl carbonate, reaction product with polymer contg. poly- or oligo-carbonate group
RL: DEV (Device component use); POF (Polymer in formulation); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(LiPF₆-doped; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 7440-44-0, Activated carbon, uses
RL: DEV (Device component use); USES (Uses)
(activated; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 24937-79-9, PvdF
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(binder; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 7631-86-9, Aerosil, uses
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(colloidal; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)

- IT 1344-28-1, Aluminum oxide, uses 12304-65-3, Hydrotalcite
RL: DEV (Device component use); USES (Uses)
(composite, with polymer; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 7429-90-5, Aluminum, uses
RL: DEV (Device component use); USES (Uses)
(current collector; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 429-06-1, Tetraethylammonium tetrafluoroborate 7439-93-2, Lithium, uses
RL: DEV (Device component use); USES (Uses)
(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 226225-64-5P 312324-99-5P 312325-01-2P
312325-02-3P 312325-03-4P
RL: DEV (Device component use); POF (Polymer in formulation); RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent); USES (Uses)
(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 312325-09-0P 312325-10-3P
RL: DEV (Device component use); POF (Polymer in formulation); **SPN (Synthetic preparation); PREP (Preparation)**; USES (Uses)
(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 7782-42-5P, Graphite, uses 12190-79-3P, Cobalt lithium oxide colio2
RL: DEV (Device component use); **SPN (Synthetic preparation); PREP (Preparation)**; USES (Uses)
(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 29011-12-9P 53566-78-2P 54276-51-6P
312324-98-4P 312325-04-5P 312325-05-6P
312325-06-7P 312325-07-8P 312325-08-9P
RL: POF (Polymer in formulation); RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent); USES (Uses)
(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 94-36-0, Benzoyl peroxide, reactions 107-21-1, Ethylene glycol, reactions 111-46-6, Diethylene glycol, reactions 504-63-2, 1,3-Propanediol 51240-95-0, PEROCTA ND 75980-60-8, 2,4,6-Trimethylbenzoyl diphenylphosphine oxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 106-75-2P 124-05-0P 17134-17-7P 20215-51-4P 42021-85-2P
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)
- IT 25038-59-9, Polyethylene terephthalate, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Mitsui Chem Inc; JP 11140176 A 1999 HCAPLUS
- (2) Nippon Oil Co Ltd; JP 08295715 A 1996 HCAPLUS

(3) Takeuchi, M; US 5597661 A 1997

IT 226225-64-5P 312324-99-5P 312325-01-2P

312325-02-3P 312325-03-4P

RL: DEV (Device component use); POF (Polymer in formulation); RCT

(Reactant); SPN (Synthetic preparation); PREP

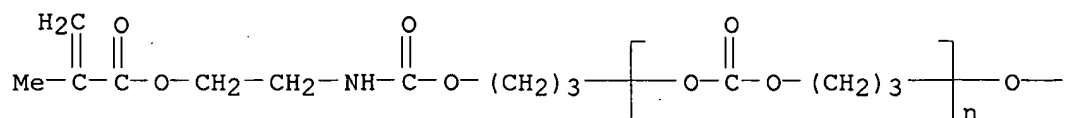
(Preparation); RACT (Reactant or reagent); USES (Uses)

(polymerizable compd. and solid polymer electrolyte using same for
batteries and elec. double layer capacitors)

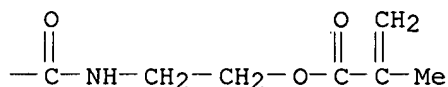
RN 226225-64-5 HCAPLUS

CN Poly(oxy carbonyloxy-1,3-propanediyl), .alpha.-[3-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]propyl]-.omega.-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



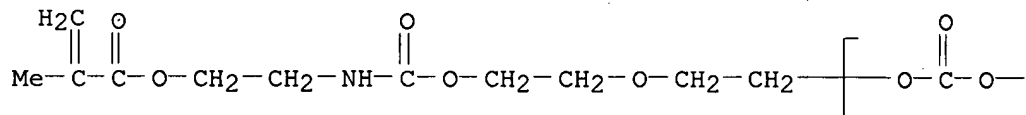
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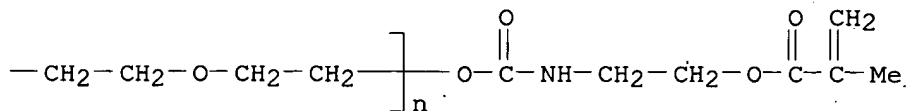
RN 312324-99-5 HCAPLUS

CN Poly(oxy carbonyloxy-1,2-ethanediyl), .alpha.-(13-methyl-7,12-dioxo-3,6,11-trioxa-8-azatetradec-13-en-1-yl)-.omega.-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]- (9CI) (CA INDEX NAME)

PAGE 1-A

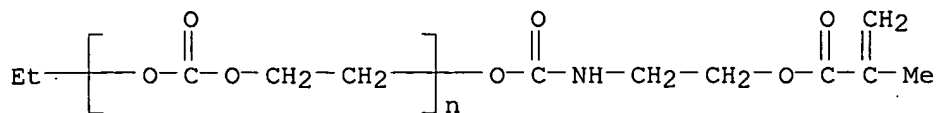


PAGE 1-B



RN 312325-01-2 HCAPLUS

CN Poly(oxy carbonyloxy-1,2-ethanediyl), .alpha.-ethyl-.omega.-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]- (9CI) (CA INDEX NAME)



RN 312325-02-3 HCAPLUS

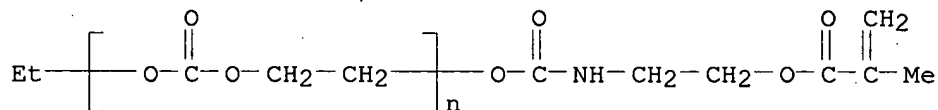
CN Poly(oxy carbonyloxy-1,2-ethanediyl oxy-1,2-ethanediyl),
 .alpha.-(13-methyl-7,12-dioxo-3,6,11-trioxa-8-azatetradec-13-en-1-yl)-
 .omega.-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]-,
 polymer with .alpha.-ethyl-.omega.-[[[2-[(2-methyl-1-oxo-2-
 propenyl)oxy]ethyl]amino]carbonyl]oxy]poly(oxy carbonyloxy-1,2-ethanediyl)
 (9CI) (CA INDEX NAME)

CM 1

CRN 312325-01-2

CMF (C3 H4 O3)_n C9 H15 N O4

CCI PMS



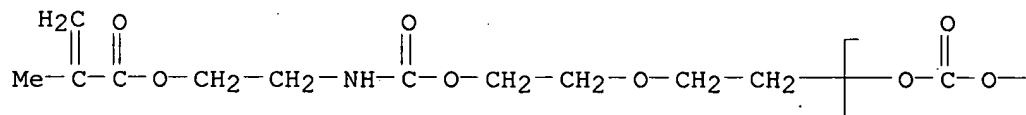
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CRN 312324-99-5

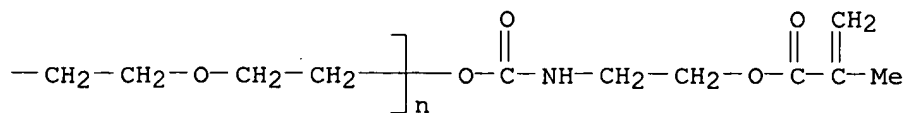
CMF (C5 H8 O4)_n C18 H28 N2 O9

CCI PMS

PAGE 1-A



PAGE 1-B



RN 312325-03-4 HCAPLUS

CN Poly(oxy carbonyloxy-1,3-propanediyl), .alpha.-[3-[[[2-[(2-methyl-1-oxo-2-
 propenyl)oxy]ethyl]amino]carbonyl]oxy]propyl]-.omega.-[[[2-[(2-methyl-1-
 oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]-, polymer with

.alpha.-[2-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]ethyl]-.omega.-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]poly(oxycarbonyloxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

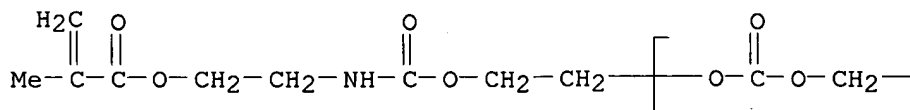
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CRN 312324-98-4

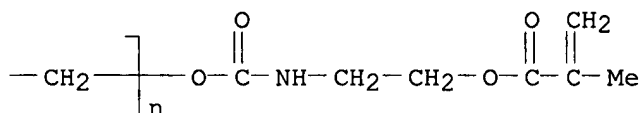
CMF (C3 H4 O3)n C16 H24 N2 O8

CCI PMS

PAGE 1-A



PAGE 1-B



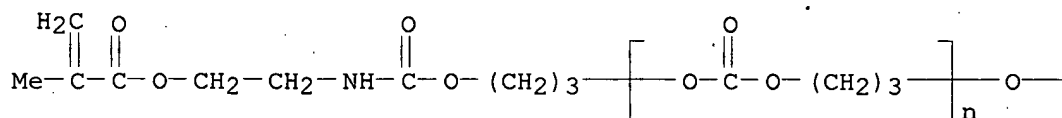
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CRN 226225-64-5

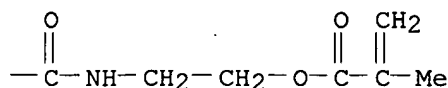
CMF (C4 H6 O3)n C17 H26 N2 O8

CCI PMS

PAGE 1-A



PAGE 1-B



IT 312325-09-0P 312325-10-3P

RL: DEV (Device component use); POF (Polymer in formulation); SPN

(Synthetic preparation); PREP (Preparation); USES (Uses)

(polymerizable compd. and solid polymer electrolyte using same for
batteries and elec. double layer capacitors)

RN 312325-09-0 HCAPLUS

CN Poly(oxycarbonyloxy-1,2-ethanediylloxy-1,2-ethanediylloxy-1,2-ethanediylloxy-1,2-ethanediyl), .alpha.-(19-methyl-13,18-dioxo-3,6,9,12,16-pentaoxa-14-azaeicos-19-en-1-yl)-.omega.-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]-, polymer with .alpha.-ethyl-.omega.-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]poly(oxycarbonyloxy-1,2-ethanediylloxy-1,2-ethanediylloxy-1,2-ethanediyl) (9CI)
(CA INDEX NAME)

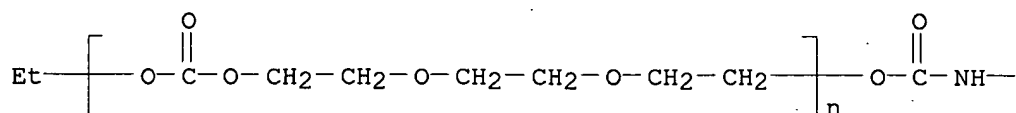
CM 1

CRN 312325-08-9

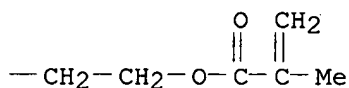
CMF (C7 H12 O5)n C9 H15 N O4

CCI PMS

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PAGE 1-B



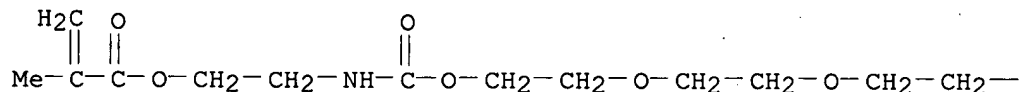
CM 2

CRN 312325-07-8

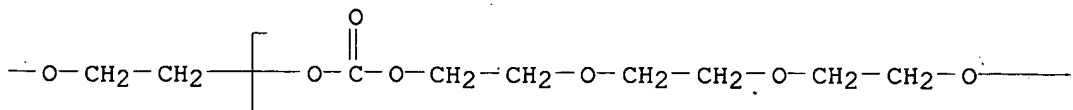
CMF (C9 H16 O6)n C22 H36 N2 O11

CCI PMS

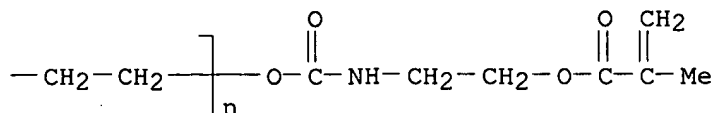
PAGE 1-A



PAGE 1-B



PAGE 1-C



RN 312325-10-3 HCAPLUS

CN Poly(oxycarbonyloxy-1,2-ethanediylloxy-1,2-ethanediylloxy-1,2-ethanediylloxy-1,2-ethanediyl), .alpha.-(19-methyl-13,18-dioxo-3,6,9,12,16-pentaoxa-14-azaeicos-19-en-1-yl)-.omega.-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]-, polymer with .alpha.-(16-methyl-10,15-dioxo-3,6,9,14-tetraoxa-11-azaheptadec-16-en-1-yl)-.omega.-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]poly(oxycarbonyloxy-1,2-ethanediylloxy-1,2-ethanediylloxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

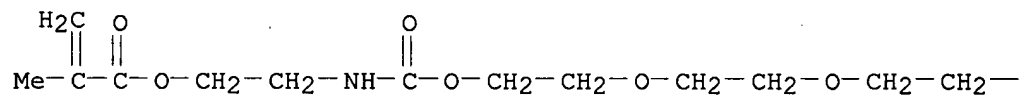
CM 1

CRN 312325-07-8

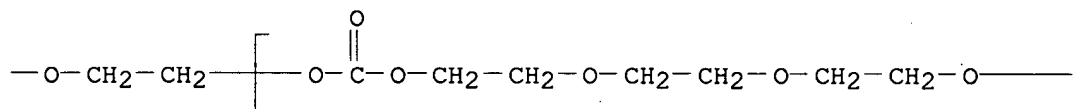
CMF (C9 H16 O6)n C22 H36 N2 O11

CCI PMS

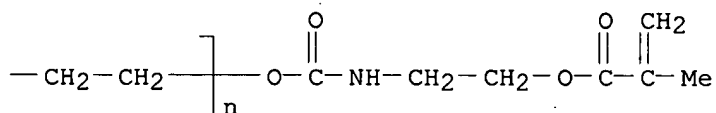
PAGE 1-A



PAGE 1-B



PAGE 1-C



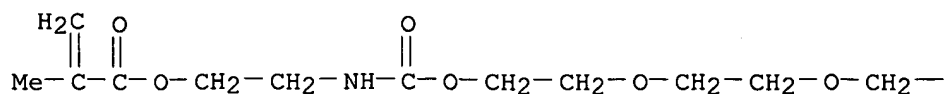
CM 2

CRN 312325-06-7

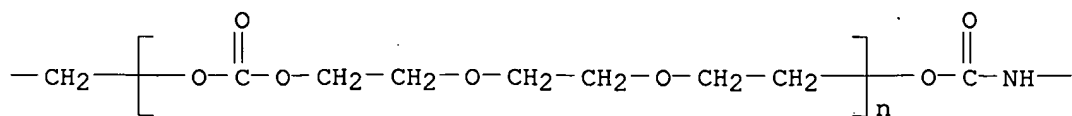
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CCI PMS

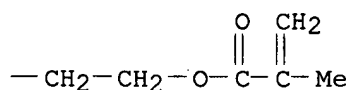
PAGE 1-A



PAGE 1-B



PAGE 1-C



IT 29011-12-9P 53566-78-2P 54276-51-6P

312324-98-4P 312325-04-5P 312325-05-6P

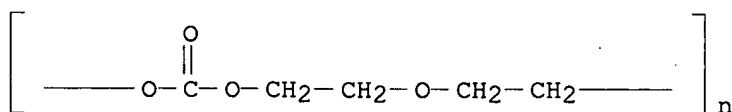
312325-06-7P 312325-07-8P 312325-08-9P

RL: POF (Polymer in formulation); RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation);** RACT (Reactant or reagent); USES (Uses)

(polymerizable compd. and solid polymer electrolyte using same for **batteries** and elec. double layer capacitors)

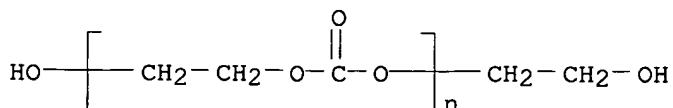
RN 29011-12-9 HCAPLUS

CN Poly(oxy carbonyloxy-1,2-ethanedioxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)



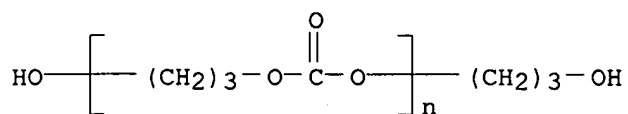
RN 53566-78-2 HCAPLUS

CN Poly(oxy carbonyloxy-1,2-ethanediyl), .alpha.-(2-hydroxyethyl)-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 54276-51-6 HCAPLUS

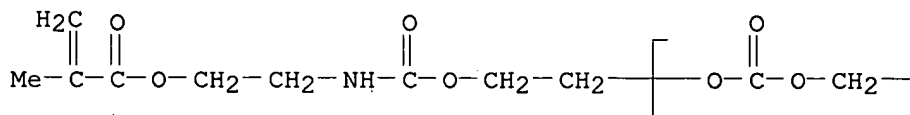
CN Poly(oxy carbonyloxy-1,3-propanediyl), .alpha.-(3-hydroxypropyl)-.omega.-hydroxy- (9CI) (CA INDEX NAME)



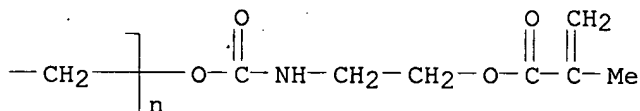
RN 312324-98-4 HCAPLUS

CN Poly(oxy carbonyloxy-1,2-ethanediyl), .alpha.-[2-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]ethyl]-.omega.-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]- (9CI) (CA INDEX NAME)

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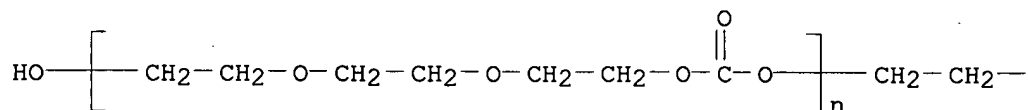
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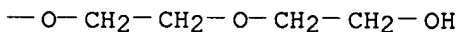
RN 312325-04-5 HCAPLUS

CN Poly(oxy carbonyloxy-1,2-ethanediyl oxy-1,2-ethanediyl oxy-1,2-ethanediyl), .alpha.-[2-[2-(2-hydroxyethoxy)ethoxy]ethyl]-.omega.-hydroxy- (9CI) (CA INDEX NAME)

PAGE 1-A



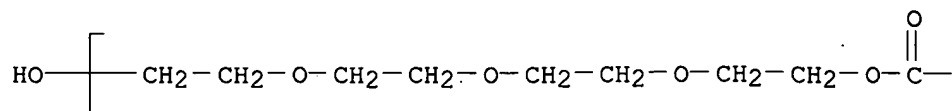
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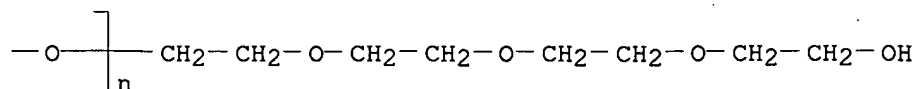
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CN Poly(oxy carbonyloxy-1,2-ethanediyl oxy-1,2-ethanediyl oxy-1,2-ethanediyl oxy-1,2-ethanediyl), .alpha.-[2-[2-[2-(2-hydroxyethoxy)ethoxy]ethoxy]ethyl]-.omega.-hydroxy- (9CI) (CA INDEX NAME)

PAGE 1-A



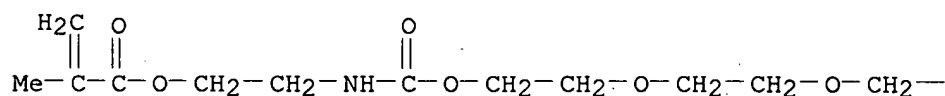
PAGE 1-B



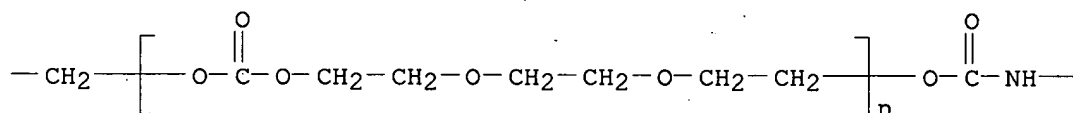
RN 312325-06-7 HCAPLUS

CN Poly(oxy carbonyloxy-1,2-ethanediyl oxy-1,2-ethanediyl oxy-1,2-ethanediyl),
 .alpha.-(16-methyl-10,15-dioxo-3,6,9,14-tetraoxa-11-azaheptadec-16-en-1-yl)-.omega.-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]- (9CI) (CA INDEX NAME)

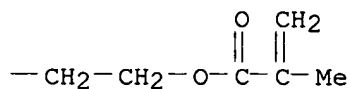
PAGE 1-A



PAGE 1-B



PAGE 1-C



RN 312325-07-8 HCAPLUS

CN Poly(oxy carbonyloxy-1,2-ethanediyl oxy-1,2-ethanediyl oxy-1,2-ethanediyl oxy-1,2-ethanediyl), .alpha.-(19-methyl-13,18-dioxo-3,6,9,12,16-pentaoxa-14-azaeicos-19-en-1-yl)-.omega.-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]- (9CI) (CA INDEX NAME)

DT Patent
 LA Japanese
 IC ICM H01M004-62
 ICS C08F002-00; H01G009-058; H01M004-04; C08F020-28; C08F020-36;
 C08F299-02; C08L069-00
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 23, 35, 38, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000021406	A2	20000121	JP 1998-184067	19980630
PRAI	JP 1998-184067		19980630		

AB The electrode binders comprise polymers contg. poly- or oligocarbonate groups [(R1O)mCO2]n [I; R1 = (heteroatom-contg.) C1-10 linear, **branched**, and/or cyclic divalent group; m = 1-10; n = 2-1000; R1, m, n may differ]. The **battery** electrodes contain polymn. products of the binders above and electrode materials selected from Li alloys, C materials, inorg. oxides, inorg. sulfides, and elec. conductive polymers. The double-layer capacitor electrodes contain polymn. products of the binders above and polarizable electrode materials selected from C materials, inorg. oxides, inorg. sulfides, inorg. halogen compds., and metals. The electrodes are manufd. by mixing compds. contg. I and polymerizable groups CH2:CR2CO2 and/or CH2:CR3CO(OR4)xNHCO2 [R2, R3 = H, C1-6 alkyl; R4 = (heteroatom-contg.) C1-10 linear, **branched**, and/or cyclic divalent group; x = 0-10; R2-R4, x may differ] with electrode powders and optional org. solvents, forming the mixts., and polymg. the compds. The polymer binders show good adhesion to active materials or current collectors and provide electrodes with long life and high capacity, durability, reliability, stability, and workability.

ST polycarbonate binder electrode **battery** capacitor; double layer capacitor electrode polycarbonate

IT Polycarbonates, uses
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
 (acrylic; polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and reliability)

IT Capacitor electrodes
 (double layer; polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and reliability)

IT Carbon black, uses
 Carbonaceous materials (technological products)
 Halides
 Metals, uses
 Oxides (inorganic), uses
 Sulfides, uses
 RL: DEV (Device component use); USES (Uses)
 (electrodes; polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and reliability)

IT Carbon fibers, uses
 RL: DEV (Device component use); USES (Uses)
 (graphite, anodes; polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and reliability)

IT Secondary **batteries**
 (lithium; polycarbonates as electrode binders for **batteries**)

and double-layer capacitors with high capacity, durability, and reliability)

IT **Battery anodes**

Battery cathodes

Binders

Conducting polymers

(polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and reliability)

IT **Lithium alloy**

RL: DEV (Device component use); USES (Uses)

(electrodes; polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and reliability)

IT **7440-44-0, Activated carbon, uses**

RL: DEV (Device component use); USES (Uses)

(activated, electrodes; polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and reliability)

IT **7782-42-5P, Graphite, uses**

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(anodes; polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and reliability)

IT **12190-79-3P, Cobalt lithium oxide (CoLiO₂)**

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(cathodes; polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and reliability)

IT **56597-66-1 207385-06-6 228863-58-9**

RL: DEV (Device component use); USES (Uses)

(polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and reliability)

IT **25718-55-2P, Poly(oxycarbonyloxy-1,2-ethanediyl)**

29011-12-9P 30674-80-7DP, 2-Methacryloyloxyethyl isocyanate, reaction products with hydroxy-terminated polycarbonates, polymers

50862-75-4P, Poly(oxycarbonyloxy-1,3-propanediyl)

RL: DEV (Device component use); PNU (Preparation, unclassified); **PREP (Preparation); USES (Uses)**

(polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and reliability)

IT **106-75-2P, Diethylene glycol bis(chloroformate) 124-05-0P, Ethylene glycol bis(chloroformate) 20215-51-4P, 1,3-Propanediol bis(chloroformate)**

RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

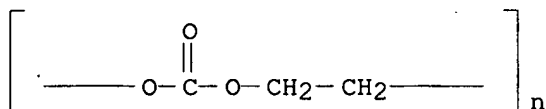
(polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and reliability)

IT **107-21-1, Ethylene glycol, reactions 111-46-6, Diethylene glycol, reactions 504-63-2, 1,3-Propanediol**

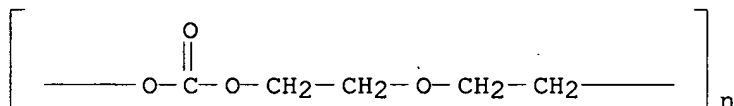
RL: RCT (Reactant); RACT (Reactant or reagent)

(polycarbonates as electrode binders for **batteries** and double-layer capacitors with high capacity, durability, and

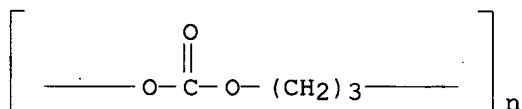
reliability)
 IT 25718-55-2P, Poly(oxy-carbonyloxy-1,2-ethanediyl)
 29011-12-9P 50862-75-4P, Poly(oxy-carbonyloxy-1,3-
 propanediyl)
 RL: DEV (Device component use); PNU (Preparation, unclassified); **PREP**
(Preparation); USES (Uses)
 (polycarbonates as electrode binders for **batteries** and
 double-layer capacitors with high capacity, durability, and
 reliability)
 RN 25718-55-2 HCAPLUS
 CN Poly(oxy-carbonyloxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)



RN 29011-12-9 HCAPLUS
 CN Poly(oxy-carbonyloxy-1,2-ethanediyl-oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)



RN 50862-75-4 HCAPLUS
 CN Poly(oxy-carbonyloxy-1,3-propanediyl) (9CI) (CA INDEX NAME)



L16 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:23463 HCAPLUS

DN 130:140311

TI Polyurethane-containing binders for **battery** electrodes with high capacitance and their manufacture

IN Tsunoda, Shohei; Konishi, Noboru

PA Nippon Polyurethane Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09J175-04

ICS H01M004-02; H01M004-62; C08G018-42

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 52

FAN.CNT 1

PATENT NO.

KIND DATE

APPLICATION NO. DATE

PI JP 11001676 A2 19990106 JP 1997-169597 19970611
 PRAI JP 1997-169597 19970611

AB The polyurethanes in the binders are prepd. from X1R1X2(AR2)nAR3 (X1, X2 = active H group; A = bivalent group contg. atom with higher electronegativity than that of C; R1 = trivalent org. linkage; R2 = bivalent org. linkage; R3 = monovalent org. group; n .gtoreq. 1). The binders may contain polyurethane hardeners and other resins. The **battery** electrodes using the binders show large capacitance and excellent durability. Thus, 109.1 parts diethylene carbonate-1,6-hexanediol copolymer (Mn 500) was reacted with 109.1 parts methoxypolyethylene glycol glycerol ether (PEN C 100; Mn 1000, OH value 112.2 kg-KOH/g) and 79.40 parts MDI at 75.degree. to give a 30%-solid polyurethane liq., 4 parts of which was dissolved in solvents with acetylene black 6, MnO2 90, and Coronate L 0.2 part, applied on an Al foil, and dried at 150.degree. to give an anode maintaining capacitance after 500-repeated charge-discharge cycle at 50.degree. 91%.

ST polyurethane binder **branched** active hydrogen compd; methoxypolyethylene glycol glycerol ether polyurethane material; **battery** electrode polyurethane binder capacitance maintainability; polycarbonate polyoxyalkylene polyurethane **battery** electrode binder

IT **Battery** electrodes
 Binders
 (manuf. of polyurethane binders from **branched** active-H compds. for **battery** electrodes with high capacitance)

IT Polyurethanes, uses
 Polyurethanes, uses
 Polyurethanes, uses
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
 (polycarbonate-polyoxyalkylene-; manuf. of polyurethane binders from **branched** active-H compds. for **battery** electrodes with high capacitance)

IT Polyoxyalkylenes, uses
 Polyoxyalkylenes, uses
 Polyoxyalkylenes, uses
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
 (polycarbonate-polyurethane-; manuf. of polyurethane binders from **branched** active-H compds. for **battery** electrodes with high capacitance)

IT Polycarbonates, uses
 Polycarbonates, uses
 Polycarbonates, uses
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-polyurethane-; manuf. of polyurethane binders from **branched** active-H compds. for **battery** electrodes with high capacitance)

IT 220003-70-3P 220003-73-6P 220003-76-9P
 220003-78-1P 220003-80-5P 220003-82-7P
 220003-86-1P 220003-88-3P 220003-90-7P
 220003-92-9P 220003-96-3P 220003-98-5P
 220004-02-4P 220008-38-8P 220008-39-9P
 RL: DEV (Device component use); IMF (Industrial manufacture);
 PRP (Properties); PREP (Preparation); USES (Uses)
 (manuf. of polyurethane binders from **branched** active-H

compds. for **battery** electrodes with high capacitance)

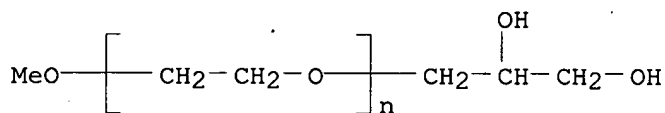
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 220003-78-1P 220003-80-5P 220003-82-7P
 220003-86-1P 220003-88-3P 220003-90-7P
 220003-92-9P 220003-96-3P 220004-02-4P
 220008-38-8P
 RL: DEV (Device component use); IMF (Industrial manufacture);
 PRP (Properties); PREP (Preparation); USES (Uses)
 (manuf. of polyurethane binders from **branched** active-H
 compds. for **battery** electrodes with high capacitance)

RN 220003-70-3 HCAPLUS

CN Carbonic acid, diethyl ester, polymer with Coronate L,
 .alpha.-(2,3-dihydroxypropyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl),
 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX
 NAME)

CM 1

CRN 122202-39-5
 CMF (C2 H4 O)_n C4 H10 O3
 CCI PMS



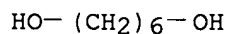
CM 2

CRN 39278-79-0
 CMF Unspecified
 CCI PMS, MAN

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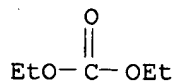
CM 3

CRN 629-11-8
 CMF C6 H14 O2



CM 4

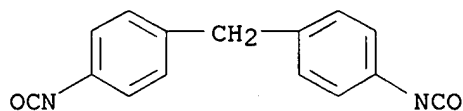
CRN 105-58-8
 CMF C5 H10 O3



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



RN 220003-73-6 HCAPLUS

CN Carbonic acid, diethyl ester, polymer with Coronate HX,
 .alpha.-(2,3-dihydroxypropyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl),
 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX
 NAME)

CM 1

CRN 144245-98-7

CMF Unspecified

CCI PMS, MAN

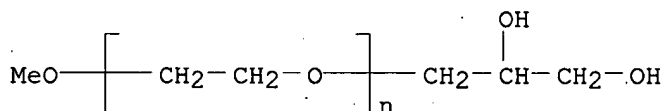
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CM 2

CRN 122202-39-5

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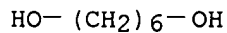
CCI PMS



CM 3

CRN 629-11-8

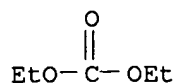
CMF C6 H14 O2



CM 4

CRN 105-58-8

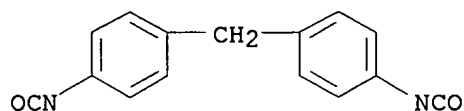
CMF C5 H10 O3



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



RN 220003-76-9 HCAPLUS

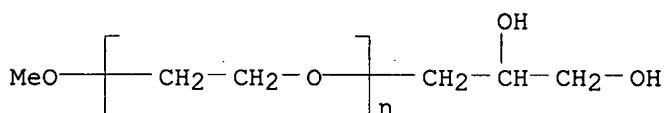
CN Carbonic acid, diethyl ester, polymer with Coronate HL, .alpha.-(2,3-dihydroxypropyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl), 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 122202-39-5

CMF (C2 H4 O)_n C4 H10 O3

CCI PMS



CM 2

CRN 37293-38-2

CMF Unspecified

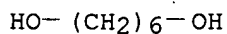
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

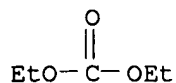
CRN 629-11-8

CMF C6 H14 O2



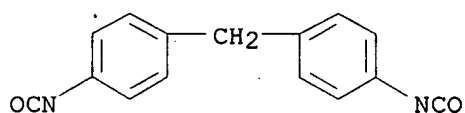
CM 4

CRN 105-58-8
CMF C5 H10 O3



CM 5

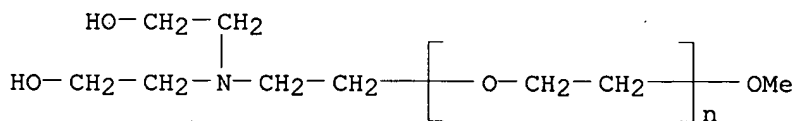
CRN 101-68-8
CMF C15 H10 N2 O2



RN 220003-78-1 HCAPLUS
CN Carbonic acid, diethyl ester, polymer with .alpha.-[2-[bis(2-hydroxyethyl)amino]ethyl]-.omega.-methoxypoly(oxy-1,2-ethanediyl),
Coronate L, 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene]
(9CI) (CA INDEX NAME)

CM 1

CRN 167859-55-4
CMF (C2 H4 O)_n C7 H17 N O3
CCI PMS



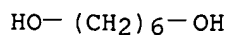
CM 2

CRN 39278-79-0
CMF Unspecified
CCI PMS, MAN

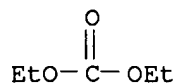
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

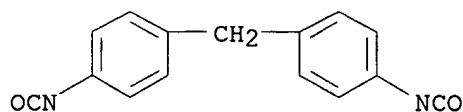
CRN 629-11-8
CMF C6 H14 O2



CM 4

CRN 105-58-8
CMF C5 H10 O3

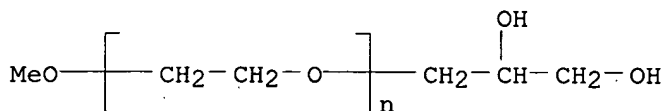
CM 5

CRN 101-68-8
CMF C15 H10 N2 O2

RN 220003-80-5 HCAPLUS

CN Carbonic acid, diethyl ester, polymer with 1,4-butanediol, Coronate HL, .alpha.-(2,3-dihydroxypropyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 122202-39-5
CMF (C2 H4 O)_n C4 H10 O3
CCI PMS

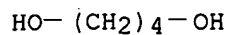
CM 2

CRN 37293-38-2
CMF Unspecified
CCI PMS, MAN

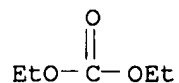
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

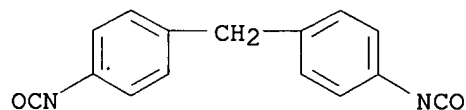
CRN 110-63-4
CMF C4 H10 O2



CM 4

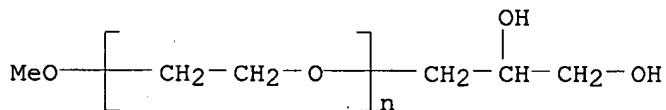
CRN 105-58-8
CMF C5 H10 O3

CM 5

CRN 101-68-8
CMF C15 H10 N2 O2

RN 220003-82-7 HCAPLUS
CN Carbonic acid, diethyl ester, polymer with Coronate L,
.alpha.-(2,3-dihydroxypropyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl),
1,1'-methylenebis[4-isocyanatobenzene] and 1,5-pentanediol (9CI) (CA
INDEX NAME)

CM 1

CRN 122202-39-5
CMF (C2 H4 O)_n C4 H10 O3
CCI PMS

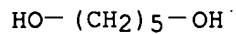
CM 2

CRN 39278-79-0
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

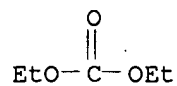
CM 3

CRN 111-29-5
CMF C5 H12 O2



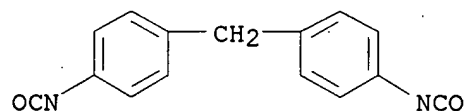
CM 4

CRN 105-58-8
CMF C5 H10 O3



CM 5

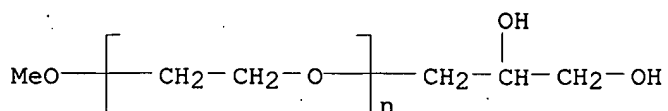
CRN 101-68-8
CMF C15 H10 N2 O2



RN 220003-86-1 HCAPLUS
CN Carbonic acid, diethyl ester, polymer with Coronate L,
1,4-cyclohexanedimethanol, .alpha.-(2,3-dihydroxypropyl)-.omega.-
methoxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatobenzene]
(9CI) (CA INDEX NAME)

CM 1

CRN 122202-39-5
CMF (C2 H4 O)_n C4 H10 O3
CCI PMS

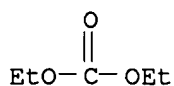


CM 2

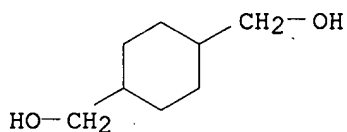
CRN 39278-79-0
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

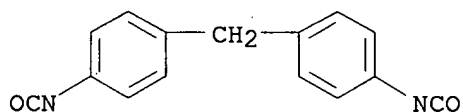
CM 3

CRN 105-58-8
CMF C5 H10 O3

CM 4

CRN 105-08-8
CMF C8 H16 O2

CM 5

CRN 101-68-8
CMF C15 H10 N2 O2

RN 220003-88-3 HCAPLUS

CN Carbonic acid, diethyl ester, polymer with 1,4-butanediol, Coronate HX,
.alpha.-(2,3-dihydroxypropyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl),
1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX
NAME)

CM 1

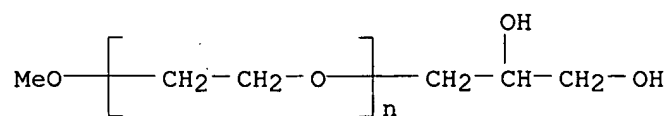
CRN 144245-98-7
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

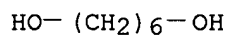
CRN 122202-39-5

CMF (C2 H4 O)_n C4 H10 O3
 CCI PMS



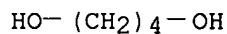
CM 3

CRN 629-11-8
 CMF C6 H14 O2



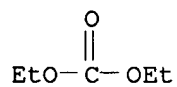
CM 4

CRN 110-63-4
 CMF C4 H10 O2



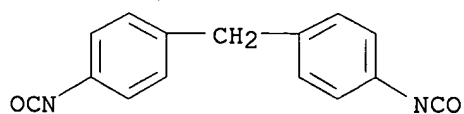
CM 5

CRN 105-58-8
 CMF C5 H10 O3



CM 6

CRN 101-68-8
 CMF C15 H10 N2 O2



RN 220003-90-7 HCAPLUS
 CN Carbonic acid, diethyl ester, polymer with .alpha.-[2-[bis(2-hydroxyethyl)amino]ethyl]-.omega.-methoxypoly(oxy-1,2-ethanediyl),

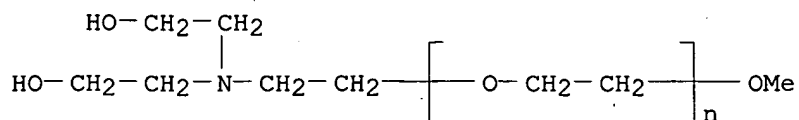
Coronate HL, 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene]
(9CI) (CA INDEX NAME)

CM 1

CRN 167859-55-4

CMF (C2 H4 O)_n C7 H17 N O3

CCI PMS



CM 2

CRN 37293-38-2

CMF Unspecified

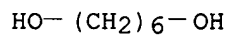
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 629-11-8

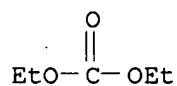
CMF C6 H14 O2



CM 4

CRN 105-58-8

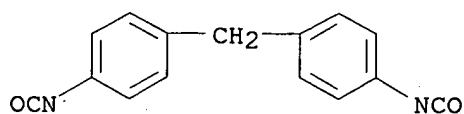
CMF C5 H10 O3



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



RN 220003-92-9 HCAPLUS

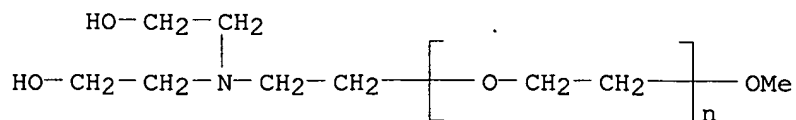
CN Carbonic acid, diethyl ester, polymer with .alpha.-[2-[bis(2-hydroxyethyl)amino]ethyl]-.omega.-methoxypoly(oxy-1,2-ethanediyl), Coronate HX, 1,6-hexanediol, .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

CM 1

CRN 167859-55-4

CMF (C2 H4 O)_n C7 H17 N O3

CCI PMS



CM 2

CRN 144245-98-7

CMF Unspecified

CCI PMS, MAN

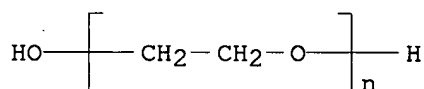
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 25322-68-3

CMF (C2 H4 O)_n H2 O

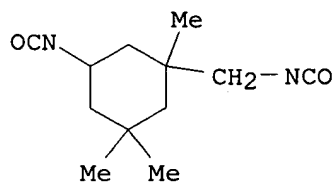
CCI PMS



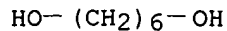
CM 4

CRN 4098-71-9

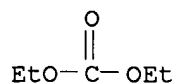
CMF C12 H18 N2 O2



CM 5

CRN 629-11-8
CMF C6 H14 O2

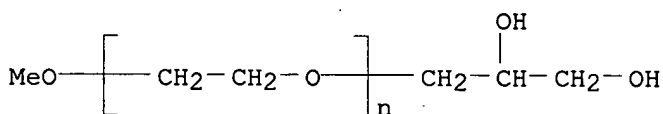
CM 6

CRN 105-58-8
CMF C5 H10 O3

RN 220003-96-3 HCAPLUS

CN Hexanedioic acid, polymer with 1,4-butanediol, Coronate HL, diethyl carbonate, .alpha.-(2,3-dihydroxypropyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl), 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

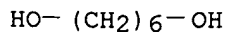
CRN 122202-39-5
CMF (C2 H4 O)_n C4 H10 O3
CCI PMS

CM 2

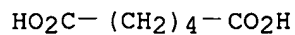
CRN 37293-38-2
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

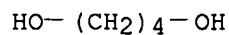
CM 3

CRN 629-11-8
CMF C6 H14 O2

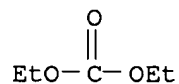
CM 4

CRN 124-04-9
CMF C6 H10 O4

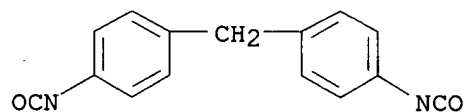
CM 5

CRN 110-63-4
CMF C4 H10 O2

CM 6

CRN 105-58-8
CMF C5 H10 O3

CM 7

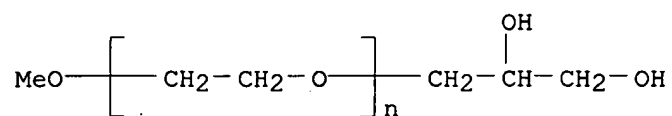
CRN 101-68-8
CMF C15 H10 N2 O2

RN 220004-02-4 HCAPLUS

CN Carbonic acid, diethyl ester, polymer with 1,4-butanediol,
.alpha.-(2,3-dihydroxypropyl)-.omega.-methoxypoly(oxy-1,2-ethanediyl),
1,3-diisocyanatomethylbenzene, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol,
1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX
NAME)

CM 1

CRN 122202-39-5
CMF (C2 H4 O)_n C4 H10 O3
CCI PMS

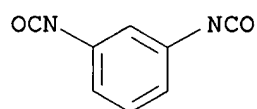


CM 2

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS

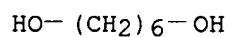


D1-Me

CM 3

CRN 629-11-8

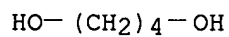
CMF C6 H14 O2



CM 4

CRN 110-63-4

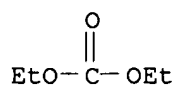
CMF C4 H10 O2



CM 5

CRN 105-58-8

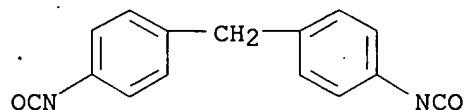
CMF C5 H10 O3



CM 6

CRN 101-68-8

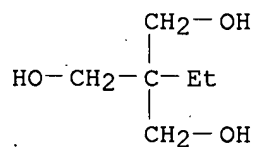
CMF C15 H10 N2 O2



CM 7

CRN 77-99-6

CMF C6 H14 O3



RN 220008-38-8 HCAPLUS

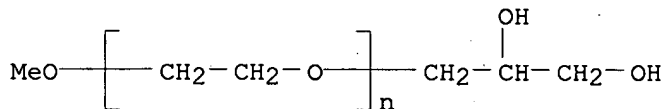
CN Carbonic acid, diethyl ester, polymer with .alpha.-(2,3-dihydroxypropyl)-
 .omega.-methoxypoly(oxy-1,2-ethanediyl), 1,1'-methylenebis[4-
 isocyanatobenzene] and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 122202-39-5

CMF (C2 H4 O)_n C4 H10 O3

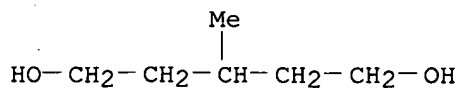
CCI PMS



CM 2

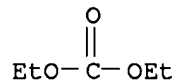
CRN 4457-71-0

CMF C6 H14 O2



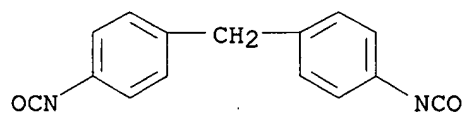
CM 3

CRN 105-58-8
CMF C5 H10 O3



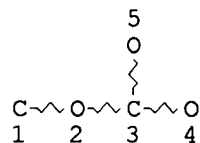
CM 4

CRN 101-68-8
CMF C15 H10 N2 O2



=> D QUE
L1

STR



NODE ATTRIBUTES:

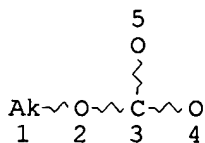
CONNECT IS E1 RC AT 5
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L3 SCR 2043
L5 6171 SEA FILE=REGISTRY SSS FUL L1 AND L3
L6 STR



NODE ATTRIBUTES:

CONNECT IS E1 RC AT 5
DEFAULT MLEVEL IS ATOM
GGCAT IS BRA AT 1

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L8 884 SEA FILE=REGISTRY SUB=L5 SSS FUL L6
 L9 1026 SEA FILE=HCAPLUS ABB=ON L8
 L10 489 SEA FILE=HCAPLUS ABB=ON L9(L) (PREP OR IMF OR SPN)/RL
 L11 2 SEA FILE=HCAPLUS ABB=ON L10 AND BATTER?
 L12 6495 SEA FILE=HCAPLUS ABB=ON L5
 L13 2377 SEA FILE=HCAPLUS ABB=ON L12(L) (PREP OR IMF OR SPN)/RL
 L14 44 SEA FILE=HCAPLUS ABB=ON L13 AND BATTER?
 L15 7 SEA FILE=HCAPLUS ABB=ON L14 AND BRANCH?
 L16 6 SEA FILE=HCAPLUS ABB=ON L15 NOT L11
 L18 16525 SEA FILE=REGISTRY ABB=ON (POLYCARBONATE/PCT OR "POLYCARBONATE
 FORMED"/PCT)
 L19 24574 SEA FILE=HCAPLUS ABB=ON L18
 L20 6828 SEA FILE=HCAPLUS ABB=ON L19(L) (PREP OR IMF OR SPN)/RL
 L25 937 SEA FILE=HCAPLUS ABB=ON ?CARBONATE?(S) BRANCH?
 L26 247 SEA FILE=HCAPLUS ABB=ON L20 AND L25
 L27 7 SEA FILE=HCAPLUS ABB=ON L26 AND BATTER?
 L28 5 SEA FILE=HCAPLUS ABB=ON L26 AND ELECTROLYT?
 L29 7 SEA FILE=HCAPLUS ABB=ON L27 OR L28
 L30 1 SEA FILE=HCAPLUS ABB=ON (L29 OR L11 OR L16) NOT (L11 OR L16)

=> D L30 ALL HITSTR

L30 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:143412 HCAPLUS
 DN 132:201771
 TI Polycarbonate-based solid **electrolytes, batteries** and
 double-layer capacitors using them, and their manufacture
 IN Takeuchi, Masataka; Naijo, Shuichi; Nishioka, Ayako
 PA Showa Denko K. K., Japan
 SO Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM H01B001-12
 ICS C08F002-00; C08F018-24; H01G009-025; H01M006-18; H01M010-40;
 C08L033-04
 CC 76-2 (Electric Phenomena)
 Section cross-reference(s): 35, 38, 52

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000067643	A2	20000303	JP 1998-232533	19980819
JP 1998-232533		19980819		

AB The **electrolytes** contain polymers of (A) compds. having
carbonates [(R1O)mCO2]n (I; R1 = C1-10 chain, **branched**,
 cyclic, or heteroatom-contg. divalent group; m = 1-10; n = 1-1000) and
 polymerizable functional groups CH2:CR2R3OCO2 (II; R2 = H, C1-6 alkyl; R3
 = C1-10 chain, **branched**, cyclic hydrocarbylene) and (B)
 .gtoreq.1 **electrolyte** salts. The **electrolytes** are
 manufd. by polymn. of compns. contg. A, B, and optionally (C) .gtoreq.1

*Polycarbonates
by
class*

1 additional answer

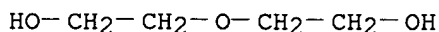
org. solvents and/or (D) .gtoreq.1 inorg. oxides on supports. The **electrolytes** may be manufd. by polymg. compns. contg. A, C, and optionally D on supports and then contacting the resulting polymers with **electrolytic** solns. Polymers comprising $\text{CH}_2\text{:CR}_2\text{R}_3\text{OCO}[(\text{R}_1\text{O})\text{mCO}_2]_n(\text{R}_1\text{O})\text{mR}_4$ ($\text{R}_1\text{-R}_3$, m, n = same as in I and II; R_4 = chain, branched, cyclic, or heteroatom-contg. org. group) are also claimed. The **electrolytes** show good mech. strength and high ionic cond.

- ST polycarbonate solid **electrolyte** manuf film strength; double layer capacitor polycarbonate solid **electrolyte**; lithium secondary **battery** polycarbonate solid **electrolyte**
- IT Capacitors
(double layer; manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- IT Secondary **batteries**
(lithium; manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- IT **Battery electrolytes**
Ionic conductors
Polymer **electrolytes**
(manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- IT Polycarbonates, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- IT Macromonomers
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- IT 429-06-1, Tetraethylammonium tetrafluoroborate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(**electrolytes**; manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- IT 56597-66-1DP, esters with allyl chloroformate, copolymers with ethylene bis(chloroformate)-ethylene glycol copolymer ester with allyl chloroformate and Et chloroformate 207385-06-6DP, esters with allyl chloroformate and Et chloroformate, polymers w/ diethylene bis(chloroformate)-diethylene glycol copolymer ester with allyl chloroformate and propylene bis(chloroformate)-propylene glycol copolymer ester with allyl chloroformate 228863-58-9DP, esters with allyl chloroformate, copolymers with ethylene bis(chloroformate)-ethylene glycol copolymer ester with allyl chloroformate
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- IT 1344-28-1, Aluminum oxide (Al_2O_3), uses 112760-18-6, KW 2200
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

- (manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- IT 105-58-8, Diethyl carbonate
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- IT 106-75-2P 124-05-0P, Ethylene bis(chloroformate) 20215-51-4P
 56597-66-1DP, esters with allyl chloroformate, homopolymers
 207385-06-6DP, esters with allyl chloroformate and Et chloroformate, homopolymers 228863-58-9DP, esters with allyl chloroformate, homopolymers
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- IT 57-55-6, Propylene glycol, reactions 75-44-5, Phosgene 107-21-1, Ethylene glycol, reactions 111-46-6, Diethylene glycol, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 623-53-0, Ethyl methyl carbonate
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (solvents; manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- IT 56597-66-1DP, esters with allyl chloroformate, copolymers with ethylene bis(chloroformate)-ethylene glycol copolymer ester with allyl chloroformate and Et chloroformate 207385-06-6DP, esters with allyl chloroformate and Et chloroformate, polymers w/ diethylene bis(chloroformate)-diethylene glycol copolymer ester with allyl chloroformate and propylene bis(chloroformate)-propylene glycol copolymer ester with allyl chloroformate 228863-58-9DP, esters with allyl chloroformate, copolymers with ethylene bis(chloroformate)-ethylene glycol copolymer ester with allyl chloroformate
 RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (manuf. of polycarbonate-based solid **electrolytes** with high film strength for **batteries** and double-layer capacitors)
- RN 56597-66-1 HCAPLUS
 CN Carbonochloridic acid, oxydi-2,1-ethanediyl ester, polymer with 2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)

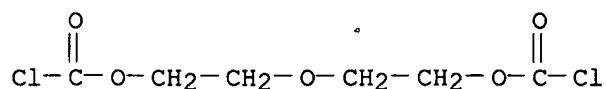
CM 1

CRN 111-46-6
 CMF C4 H10 O3



CM 2

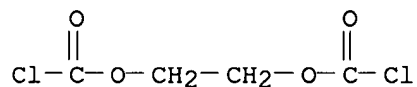
CRN 106-75-2
CMF C6 H8 Cl2 O5



RN 207385-06-6 HCAPLUS
CN Carbonochloridic acid, 1,2-ethanediyl ester, polymer with 1,2-ethanediol
(9CI) (CA INDEX NAME)

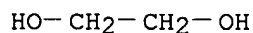
CM 1

CRN 124-05-0
CMF C4 H4 Cl2 O4



CM 2

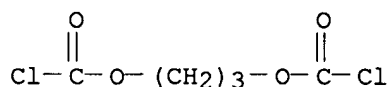
CRN 107-21-1
CMF C2 H6 O2



RN 228863-58-9 HCAPLUS
CN Carbonochloridic acid, 1,3-propanediyl ester, polymer with 1,3-propanediol
(9CI) (CA INDEX NAME)

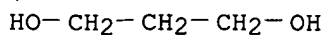
CM 1

CRN 20215-51-4
CMF C5 H6 Cl2 O4

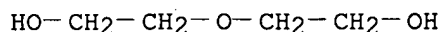


CM 2

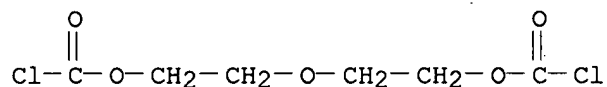
CRN 504-63-2
CMF C3 H8 O2



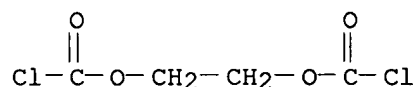
IT 56597-66-1DP, esters with allyl chloroformate, homopolymers
207385-06-6DP, esters with allyl chloroformate and Et
chloroformate, homopolymers 228863-58-9DP, esters with allyl
chloroformate, homopolymers
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(manuf. of polycarbonate-based solid **electrolytes** with high
film strength for **batteries** and double-layer capacitors)
RN 56597-66-1 HCAPLUS
CN Carbonochloridic acid, oxydi-2,1-ethanediyl ester, polymer with
2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)
CM 1
CRN 111-46-6
CMF C4 H10 O3



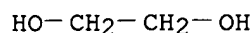
CM 2
CRN 106-75-2
CMF C6 H8 Cl2 O5



RN 207385-06-6 HCAPLUS
CN Carbonochloridic acid, 1,2-ethanediyl ester, polymer with 1,2-ethanediol
(9CI) (CA INDEX NAME)
CM 1
CRN 124-05-0
CMF C4 H4 Cl2 O4



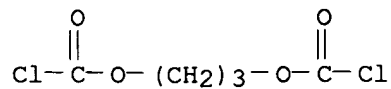
CM 2
CRN 107-21-1
CMF C2 H6 O2



RN 228863-58-9 HCAPLUS
CN Carbonochloridic acid, 1,3-propanediyl ester, polymer with 1,3-propanediol
(9CI). (CA INDEX NAME)

CM 1

CRN 20215-51-4
CMF C5 H6 Cl2 O4



CM 2

CRN 504-63-2
CMF C3 H8 O2

